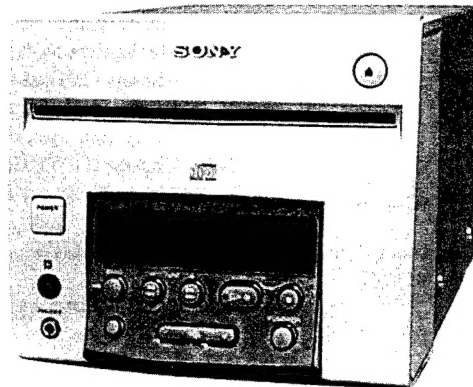


# HCD-101

## SERVICE MANUAL

*AEP Model  
UK Model  
E Model  
Tourist Model*



- HCD-101 is the CD PLAYER, TUNER and AMPLIFIER sections in CMT-101.

Model Name Using Similar Mechanism	NEW
CD Mechanism Type	CDM50
Optical Pick-Up Type	KSS-313A

### SPECIFICATIONS

#### Tuner section

##### Tuning range

###### 2 band model

###### European model:

FM : 87.5-108MHz  
(50kHz step)

AM : 522-1,611kHz

###### Other models:

FM : 87.5-108MHz  
(50kHz step)

AM : 531-1,602kHz  
(at 9kHz interval)

530-1,710kHz

(at 10kHz interval)

###### 3 band model

FM : 87.5-108MHz  
(50kHz step)

MW : 522-1,611kHz  
(at 9kHz interval)

LW : 144-288kHz

(at 3kHz interval)

##### Intermediate frequency

FM : 10.7MHz

AM : 450kHz

##### Aerial terminals

FM : 75Ω unbalanced

AM : External aerial  
terminal

##### Timer

Quartz lock system

##### Timer setting

One-minute step

##### Sleep timer

10-minute step, max.  
90minutes

#### CD player section

##### System

Compact disc digital  
audio system

##### Laser

Semiconductor laser  
(λ=780nm)

##### Laser output power

Less than 44.6μW\*

\* This output is the value measured at a distance of 200mm from the objective lens surface on the optical pick-up block with 7mm aperture.

##### Frequency response

5Hz-20kHz

##### Signal to noise ratio

More than 90dB

##### Harmonic distortion

Less than 0.05%

#### Amplifier section

##### European model:

###### DIN power output

15+15 W (4Ω at 1kHz, DIN

###### Continuous RMS power output

21+21 W (4Ω at 1kHz, 10%  
THD)

###### Music power output

26+26 W

##### Other model

**Rated RMS power output** 16+16 W (4Ω at 1kHz, 1% THD,  
AC240V/AC120V)

###### Reference RMS power output

22+22 W (4Ω at 1kHz, 10% THD,  
AC240V/AC120V)

##### Inputs

VIDEO/PC IN jack : Stereo  
phone jack, sensitivity 500mV,  
impedance 47kΩ

— Continued on next page —

## COMPACT COMPONENT SYSTEM

# SONY®



## TABLE OF CONTENTS

<b>Outputs</b>	VIDEO/PC OUT jack : Stereo phone jack, 250mV, 1k $\Omega$ DIGITAL OUT (CD OPTICAL OUT): Square optical connector jack, -18dBm, wave length 660nm PHONES (headphones) jack : Stereo mini jack, accepts head phones of 8 $\Omega$ or more.
<b>General</b>	
<b>Power requirements</b>	
European model	220-230V AC, 50/60Hz
Other models	110-120V or 220-240V AC, 50/60Hz adjustable with voltage selector
<b>Power consumption</b>	66W (when connected to TC-TX101, MDS-MX101)
<b>Dimensions</b>	Approx. 142 $\times$ 125 $\times$ 260mm (w/h/d) incl. projecting parts and controls
<b>Mass</b>	Approx. 4.1kg

## SERVICE NOTE

### NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body. During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.

The flexible board is easily damaged and should be handled with care.

### NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

### Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

### Flexible Circuit Board Repairing

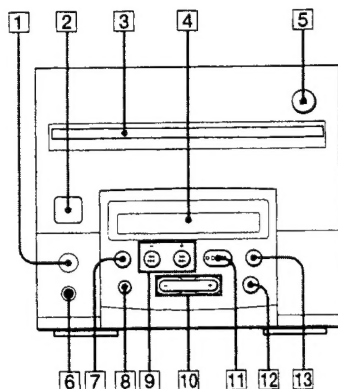
- Keep the temperature of soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

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### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  $\Delta$  OR DOTTED LINE WITH MARK  $\Delta$  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

## Step 1: Name of control and display



- 1** Remote control signal sensor
- 2** Power switch
- 3** CD insertion slot
- 4** Display window
- 5** ▲ (CD EJECT) button
- 6** PHONES terminal
- 7** BAND button
- 8** DBFB button
- 9** ◀◀◀/▶▶▶ (Cue-up musics, or fast rewind / fast forward) button
- 10** VOL+/- button
- 11** ▶|| (CD playback or pause) button
- 12** FUNCTION button
- 13** ■ (CD stop) button

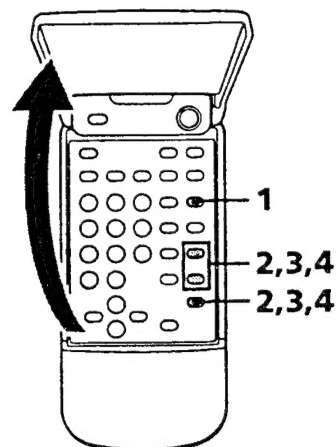
## Step 2: Setting the time

Before turning on the system, you must set the time beforehand to use the timer function.

The clock is on a 24 -hour system for the European model, and a 12-hour system for other models.

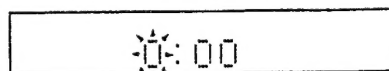
The European model is used for illustration purpose.

Remote (inside)

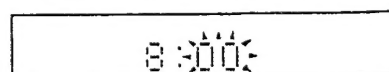


**1** Press TIMER SET.

**2** Press TIMER + or - to display "CLOCK" and press ENTER.  
The hour indication begins flashing.

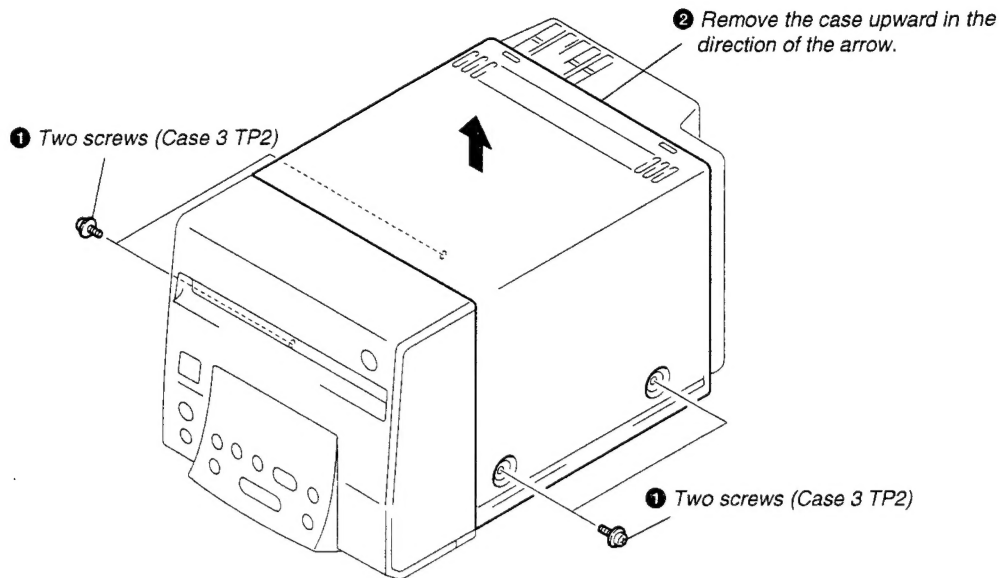


**3** Set the current hour by pressing TIMER + or - and press ENTER.  
The minute indication begins flashing.

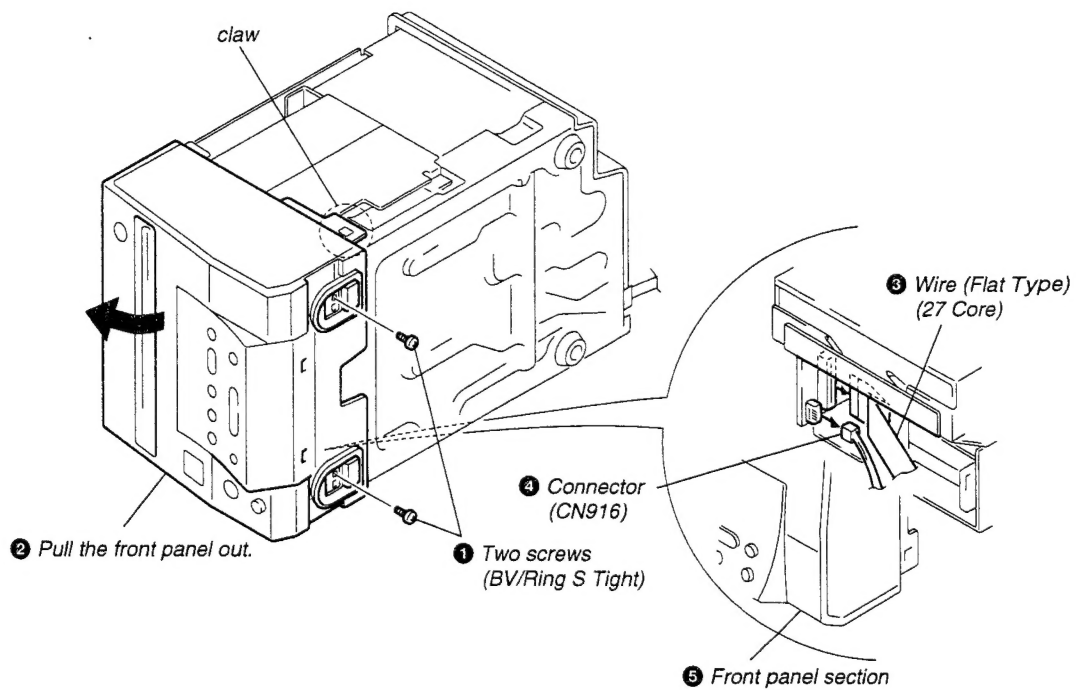


## SECTION 2 DISASSEMBLY

### 2-1. CASE

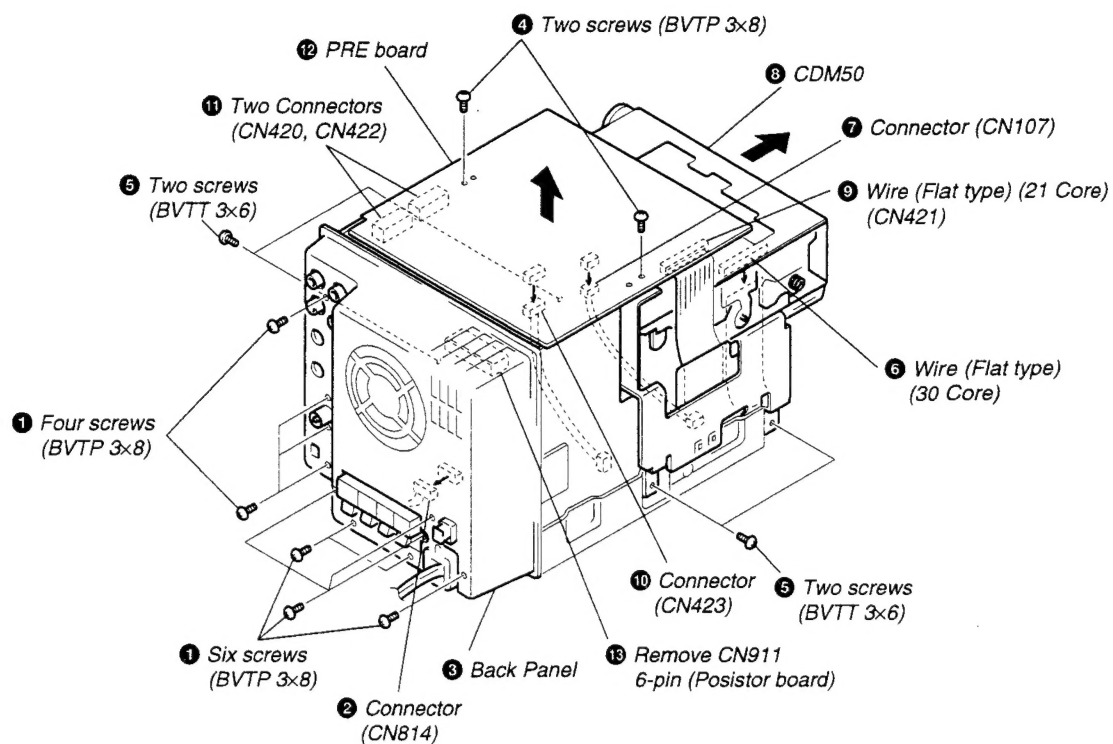


### 2-2. FRONT PANEL SECTION

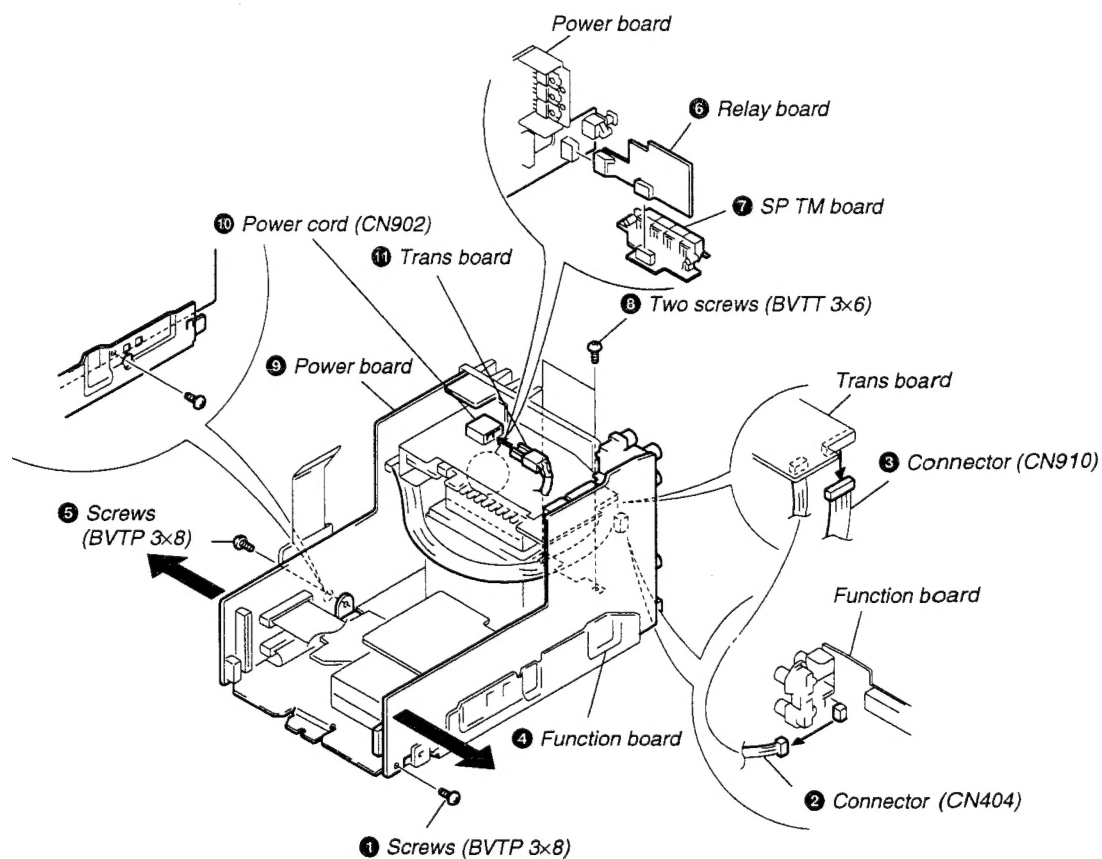




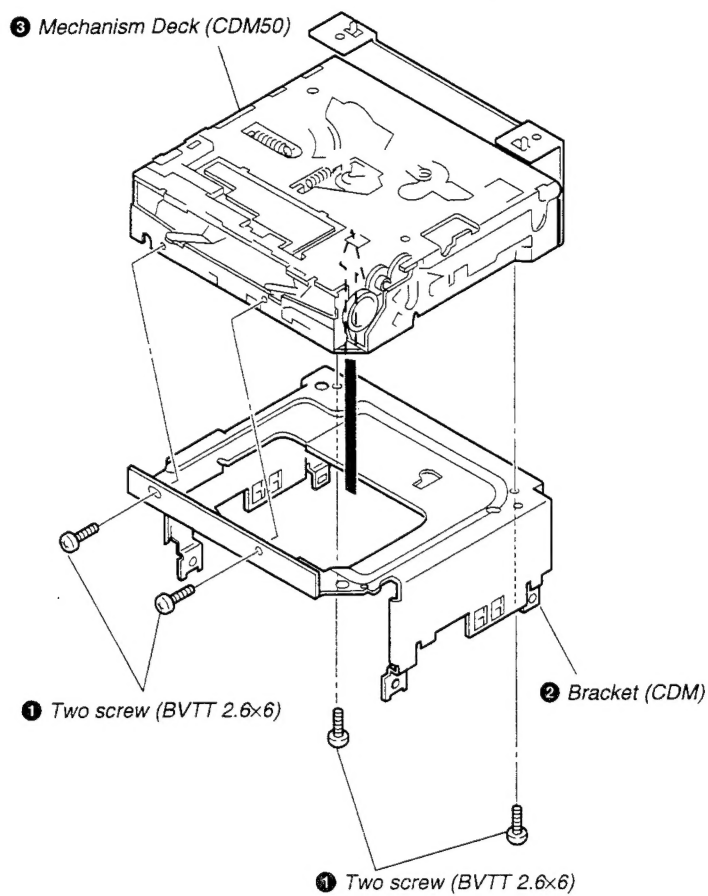
## 2-3. PRE board



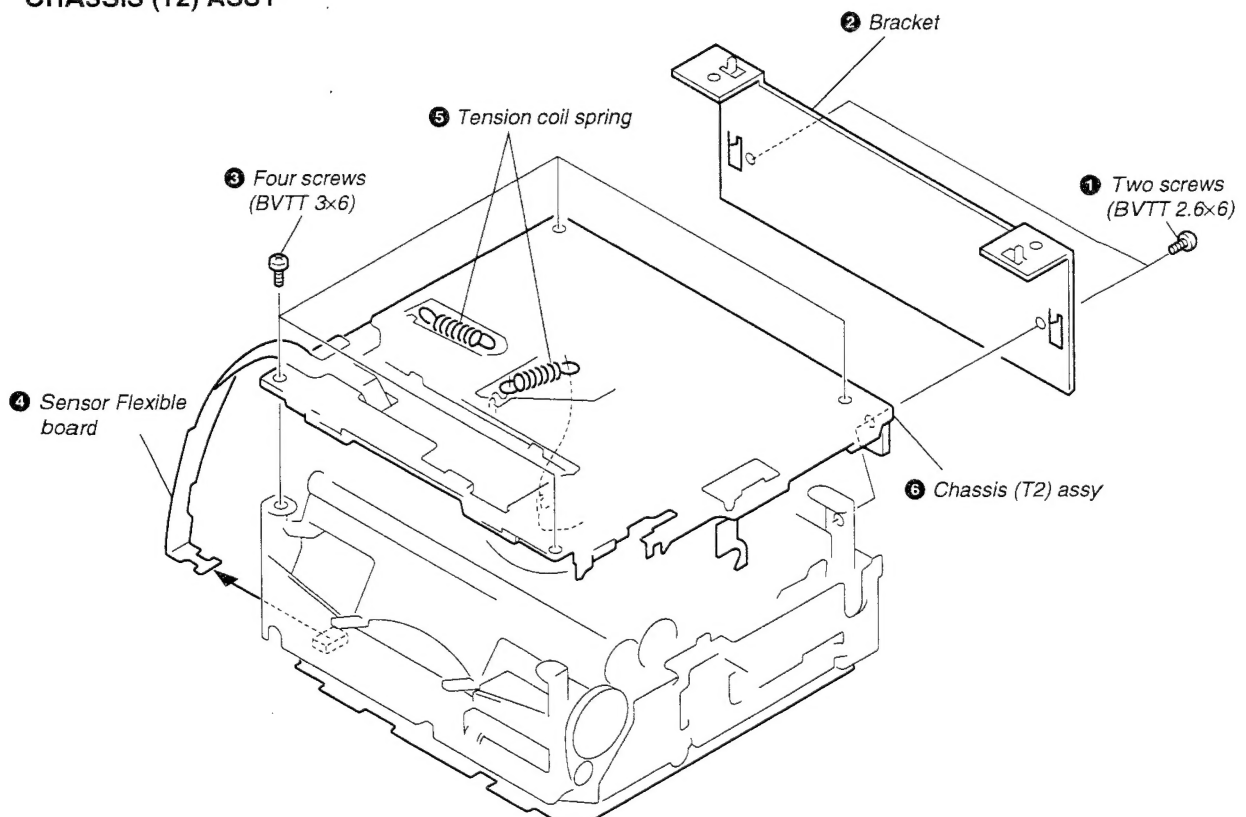
## 2-4. FUNCTION board, RELAY board, SP TM board, TRANS board, POWER board



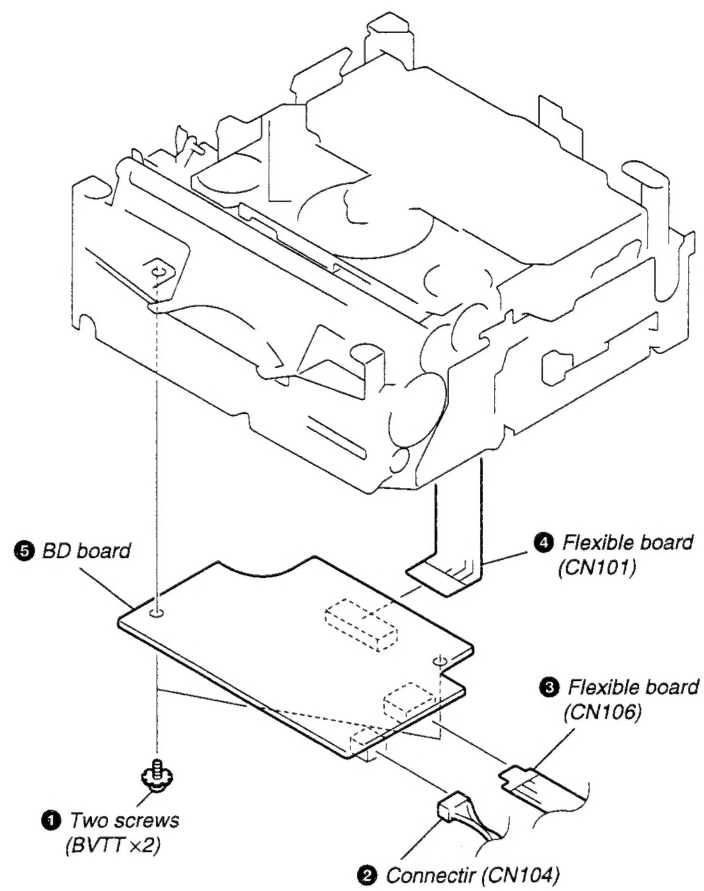
## 2-5. MECHANISM DECK (CDM50)



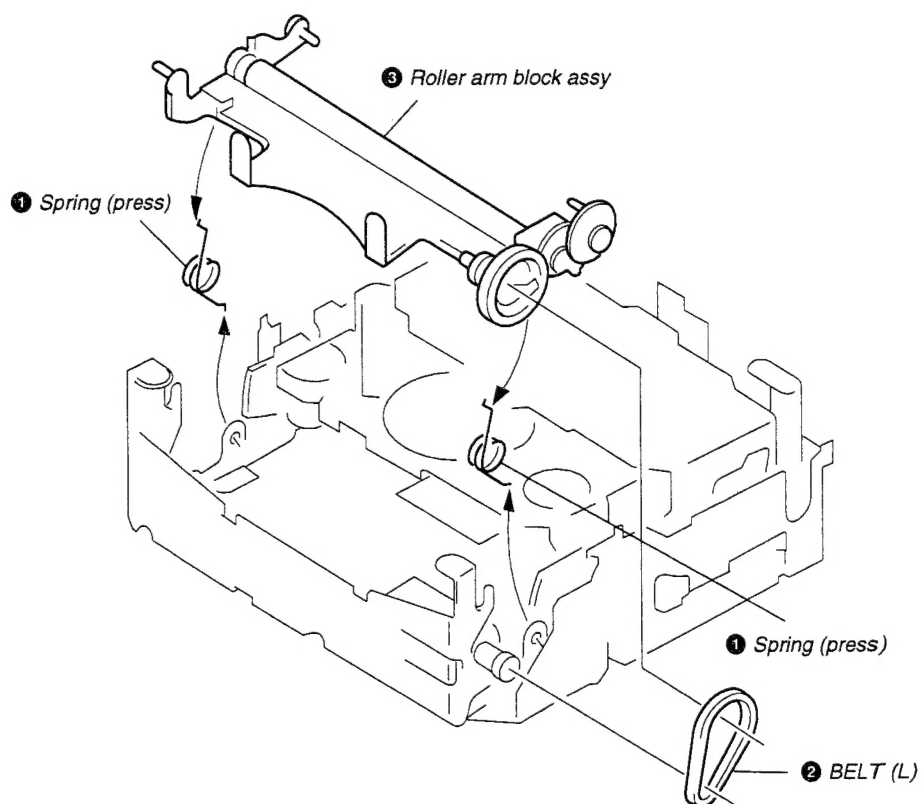
## 2-6. CHASSIS (T2) ASSY



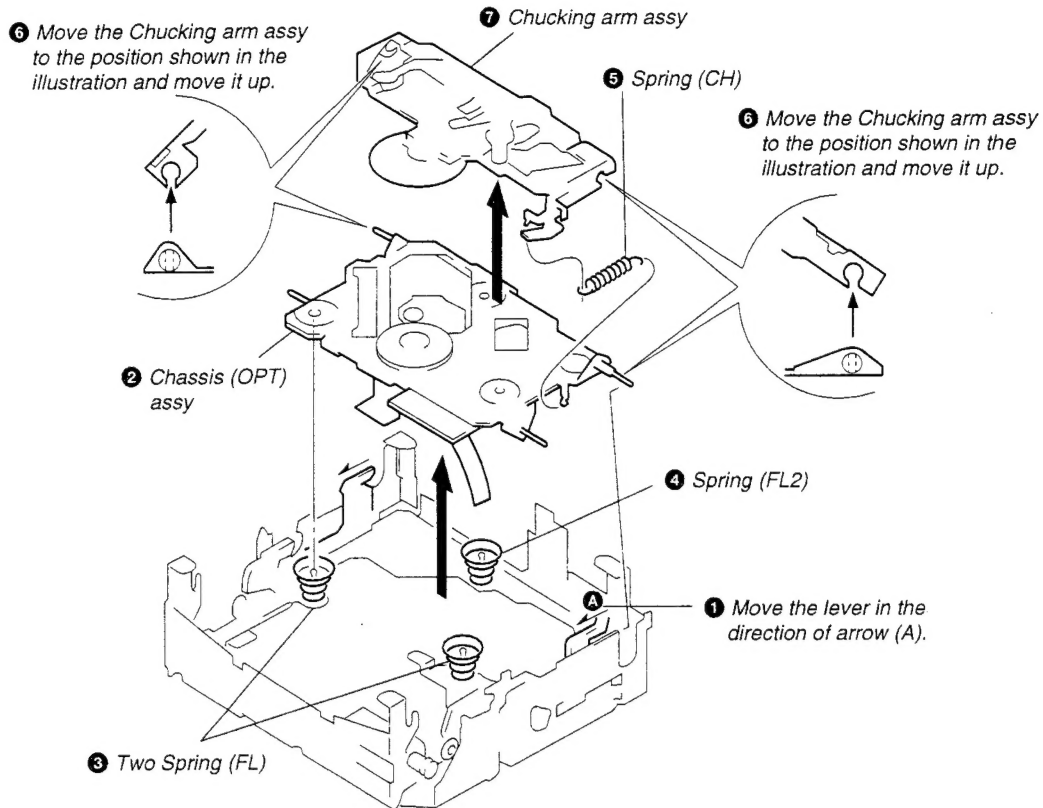
## 2-7. BD board



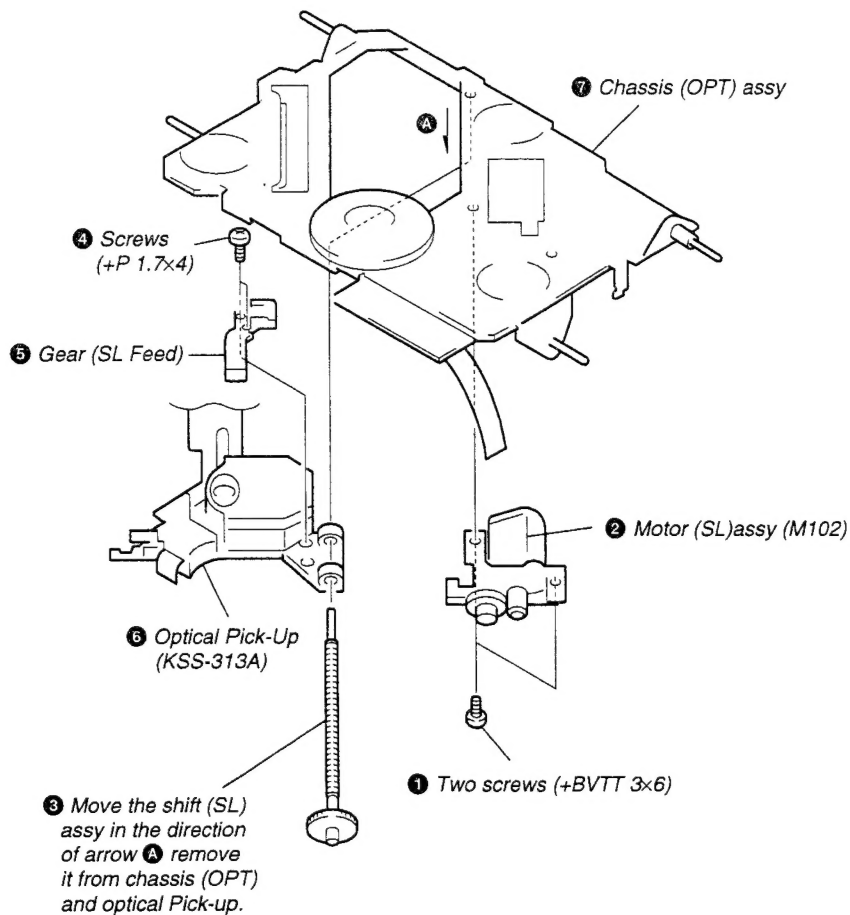
## 2-8. ROLLER ARM BLOCK ASSY



## 2-9. CHASSIS (OPT) ASSY, CHUCKING ARM ASSY



## 2-10. MOTOR (SL) ASSY (M102), OPTICAL PICK-UP (KSS-313A)



## SECTION 3 TEST MODE

There are two methods to enter the TEST mode.

- How to Enter the Test Mode - 1  
Remove the AC power cord from wall outlet, and press [EJECT ▲]. While pressing [EJECT ▲], connect the AC power cord to wall outlet.
- How to Enter the Test Mode - 2  
(This method toggles between "Entering the TEST Mode" and "Exiting the TEST Mode".)  
Turn on the main power. While pressing [TUNING +], press [DBFB], release hand from [DBFB] then press [FUNCTION]. (Keep pressing [TUNING] all the way.)  
Pressing these buttons again in the same order exits the TEST mode.
- \* The small ATT segment lights in the center top of display during the TEST mode.
- \* To exit the TEST mode, disconnect the AC power cord from wall outlet, or use "How to Enter the TEST Mode - 2".

1. Audio volume control setting (Can be adjusted only during TEST mode.)  
Press [CD STOP ■] and [VOL-] at the same time  
→ VOL MINIMUM appears  
Press [CD STOP ■] and [VOL+] at the same time  
→ VOL MAXIMUM appears
- \* The audio volume data is kept stored even after the main power is turned off.

2. Audio balance setting (Can be adjusted only during TEST mode.)  
Press [CD STOP ■] and [DBFB] at the same time  
→ LEFT 10 appears  
Press [CD STOP ■] and [FUNCTION] at the same time  
→ RIGHT 10 appears  
Press [CD STOP ■] and [CD EJECT ▲] at the same time  
→ CENTER appears
- \* The audio balance data is kept stored even after the main power is turned off.

3. Key test and FL display tube test (Can be adjusted only during TEST mode.)
  - Press [VOL-] and [BAND] at the same time → All FL tubes light. Pressing the following key in this status enables key checks as follows.

• Display depending upon the pressed key

[FUNCTION]	→	KEY NO. 1
[VOL -]	→	KEY NO. 2
[VOL +]	→	KEY NO. 3
[BAND]	→	KEY NO. 4
[TUNING+]	→	KEY NO. 5
[EJECT ▲]	→	KEY NO. 6
[TUNING -]	→	KEY NO. 7
[STOP ■]	→	KEY NO. 8
[PLAY ►  ]	→	KEY NO. 9
[DBFB]	→	KEY NO. 10

• [POWER] → Returns to the TEST mode

- \* Note: After all keys are (KEY No.1 to KEY No.10) tested, CHECK OK!! appears.

The following items have no relation with the TEST mode.

4. Initial setting (All clear of all memories)  
Disconnect the AC power cord. While pressing [POWER], connect the AC power cord to wall outlet.

5. Watch operation check (Can be operated only while the main power is off.)  
Press [FUNCTION] and [BAND] at the same time. → Watch starts counting.

### Various CD tests

Pressing the two keys at the same time enables the various adjustment and test as follows in the TEST mode, and "ATT" segment is flashing.

- 1) Pressing [TUNING-] and [CD EJECT ▲] at the same time :  
The present normal tracking balance value ("31" to "36") is displayed when the above key operation is performed and (TRBAL.) is displayed.

The tracking gain is fixed to "3F" (TOG1 to TOG2: all off)

- 2) Pressing [TUNING-] and [DBFB] at the same time :  
(SHUFFLE) is displayed.
  - ADJUSTMENT mode  
When the above key operation is performed, the machine enters the ADJUSTMENT mode. The "SHUFFLE" flashes on display tube.  
During the ADJUSTMENT mode:  
The CLV gain is not switched to 8 cm. (The CLV gain is fixed to 12 cm always.)  
The machine is ready to enter the AF-ADJUSTMENT mode as described below.

- 3) Pressing [TUNING-] and [FUNCTION] at the same time :  
(SHUFFLE) and (PROGRAM) are displayed.
  - AF-ADJUSTMENT mode  
After the machine enters the ADJUSTMENT mode by the key operation as described in step 2), the machine can enter the AF-ADJUSTMENT mode by pressing the above key operation. [TUNING - /FUNCTION]  
The "SHUFFLE" and "PROGRAM" flash on display.

During the AF-ADJUSTMENT mode, the tracking and sled servos are turned off in addition to the ADJUSTMENT mode. The machine stops the GFS error check which is normally performed by software.

- Sled motor check  
When disc is removed by pressing EJECT during the AF-ADJUSTMENT mode, the sled can be moved to inner circumference or outer circumference by pressing [TUNING-] or [TUNING+]. At this time, because the microprocessor is not sensing the sled position, be careful when moving the sled not to damage gears and other mechanism.
- 4) Pressing [TUNING-] and [VOL-] at the same time :
    - No CDM mode  
[1] is displayed.  
When the above key operation is performed, the control on the slot mechanism which takes in and ejects a CD disc is stopped.  
At this time "1" on the display flashes.  
During the no CDM mode,  
The TOC data is deleted by the [CD EJECT ▲] key.  
(When the TEST mode is cleared and a CD disc is inserted, machine reads the TOC again.)

5) Pressing [TUNING-] and [VOL+] at the same time :

- Aging mode

The machine enters the aging mode by inserting a CD disc and performing the above button operation. The display starts counting the aging operation with COUNT display, and "REPEAT" flashes.

Aging operation

1. Machine takes a disc into the machine.
2. Reads the TOC.
3. Accesses to the last track.
4. Plays back the last 2 seconds.
5. Ejects the disc.

The one complete operation from step 1 to step 5 is one count. The cycle is repeated. However, steps 2 to 4 are skipped in all modes other than the CD function.

Steps 1 and 5 are skipped in the no CDM mode.

The aging operation ends when an error occurs.

Aging error display

"Load Error"	: Loading operation is not completed in four seconds.
"Eject Error"	: Eject operation is not completed in four seconds.
"Q TOC Err"	: The Q data could not be read during eight seconds. (During TOC read)
"Q SRCH Err"	: The Q data could not be read during eight seconds. (During track search)
"Q PLAY Err"	: The Q data could not be read during eight seconds. (During PLAY)
"FOK UP Err"	: Focus could not be locked in. (During setup)
"FOK TOC Err"	: Focus is un-locked many times. (During TOC read)
"FOK SRCH Err"	: Focus is un-locked many times. (During track search)
"FOK PLAY Err"	: Focus is un-locked several times. (During play)
"GFS UP Err"	: GFS error. (During setup)
"GFS TOC Err"	: GFS error. (During TOC read)
"GFS PLAY Err"	: GFS error. (During play)

\*\* Other troubles

"TW\*SW"

TW : Numbers of times that the machine could not read TOC.

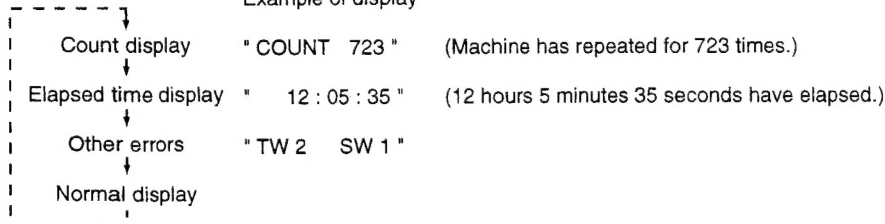
SW : Numbers of times that the machine could not complete the track search within 16 seconds.

To exit the aging mode and to return the TEST mode, press [TUNING - ] and [VOL +] at the same time.

Display selection during aging

The display can be switched by pressing the [TUNING-] and [FUNCTION] at the same time :

Example of display



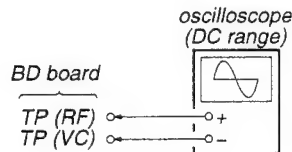
## SECTION 4 ELECTRICAL ADJUSTMENTS

### CD SECTION

#### Note:

1. CD Block is basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than  $10\text{M}\Omega$  impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.
5. When optical pickup is replaced during repair, perform the focus bias adjustment.

#### Focus Bias Adjustment

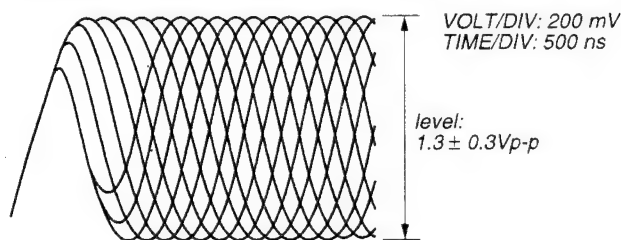


This adjustment is to be done when the optical block is replaced.

#### Adjustment procedure:

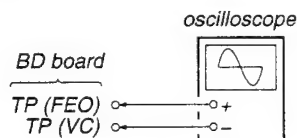
1. Connect oscilloscope to test point TP (VC) and TP (RF) on BD board.
2. Turned power switch ON. (Stop state)
3. Insert disc (YEDS-18) and press the ►|| button.
4. Adjust RV101 so that the oscilloscope waveform is as shown in the figure below (eye pattern).  
A good eye pattern means that the diamond shape (◇) in the center of the waveform can be clearly distinguished.

#### • RF signal reference waveform (eye pattern)



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

#### S-Curve Check

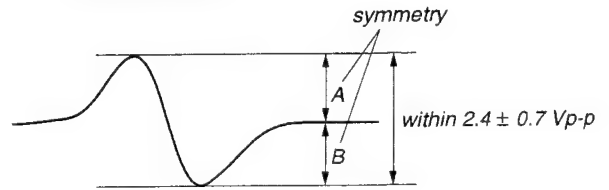


#### Procedure:

1. Connect as oscilloscope to test point TP (VC) and TP (FEO) on BD board.
2. Connect a lead wire between test point TP (FOK) and Ground.
3. Turned Power switch on.
4. Insert disc (YEDS-18) and turned Power switch on again to actuate the focus search. (actuate the focus search when disc table is moving in and out.)

5. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm that peak to peak level is within  $2.4 \pm 0.7 \text{ Vp-p}$ .

S-curve waveform

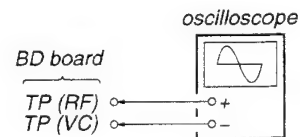


6. After check, remove the lead wire connected in step 2.

**Note:**

- Try to measure several times to make sure that the ratio of A:B or B:A is more than 10:7.
- Select a longer sweep time and increase the brightness to obtain best waveform.

#### RF Level Check

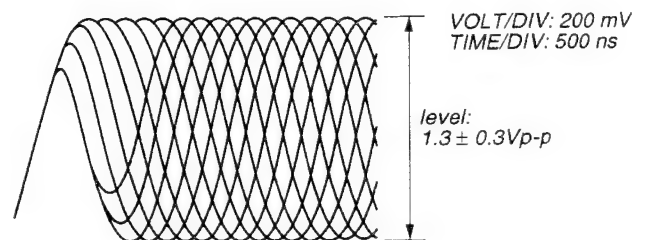


#### Procedure:

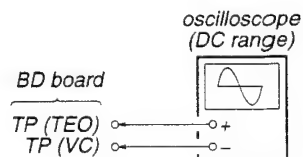
1. Connect oscilloscope to test point TP (VC) and TP (RF) on BD board.
2. Turned Power switch on.
3. Insert the disc (YEDS-18) and press the ►|| button.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct.

**Note:** Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

RF signal waveform



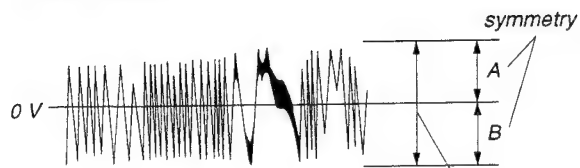
#### E-F Balance (Traverse) Check



#### Procedure:

1. Set up the TEST mode step 3) AF-ADJUSTMENT. (see page 9.)
2. Connect as oscilloscope to test point TP (TEO) on BD board.
3. Turned Power switch on.
4. Insert the disc (YEDS-18) in and press the ►|| button.
5. Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0V dc, and check the amplitude.

Traverse waveform



amplitude:  $300 \pm 100 \text{ mVp-p}$

specified value: •  $\frac{A-B}{2(A+B)} \times 100 = \text{less than } \pm 7\%$   
 •  $A+B = 300 \pm 100 \text{ mVp-p}$

### Focus/Tracking Gain Adjustment

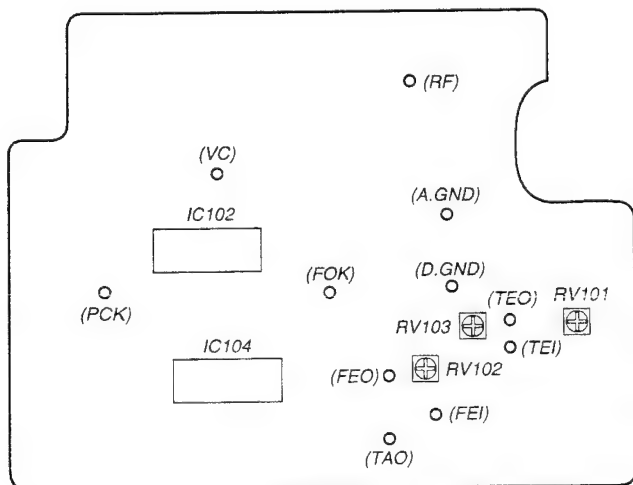
This gain has a margin, so even if it is slightly off. There is no problem.

Therefore, do not perform, RV102 and RV103 adjustment.

Please note that it should be fixed to mechanical center position when you moved and do not know original position.

### Adjustment Location:

[BD BOARD] — Component side —

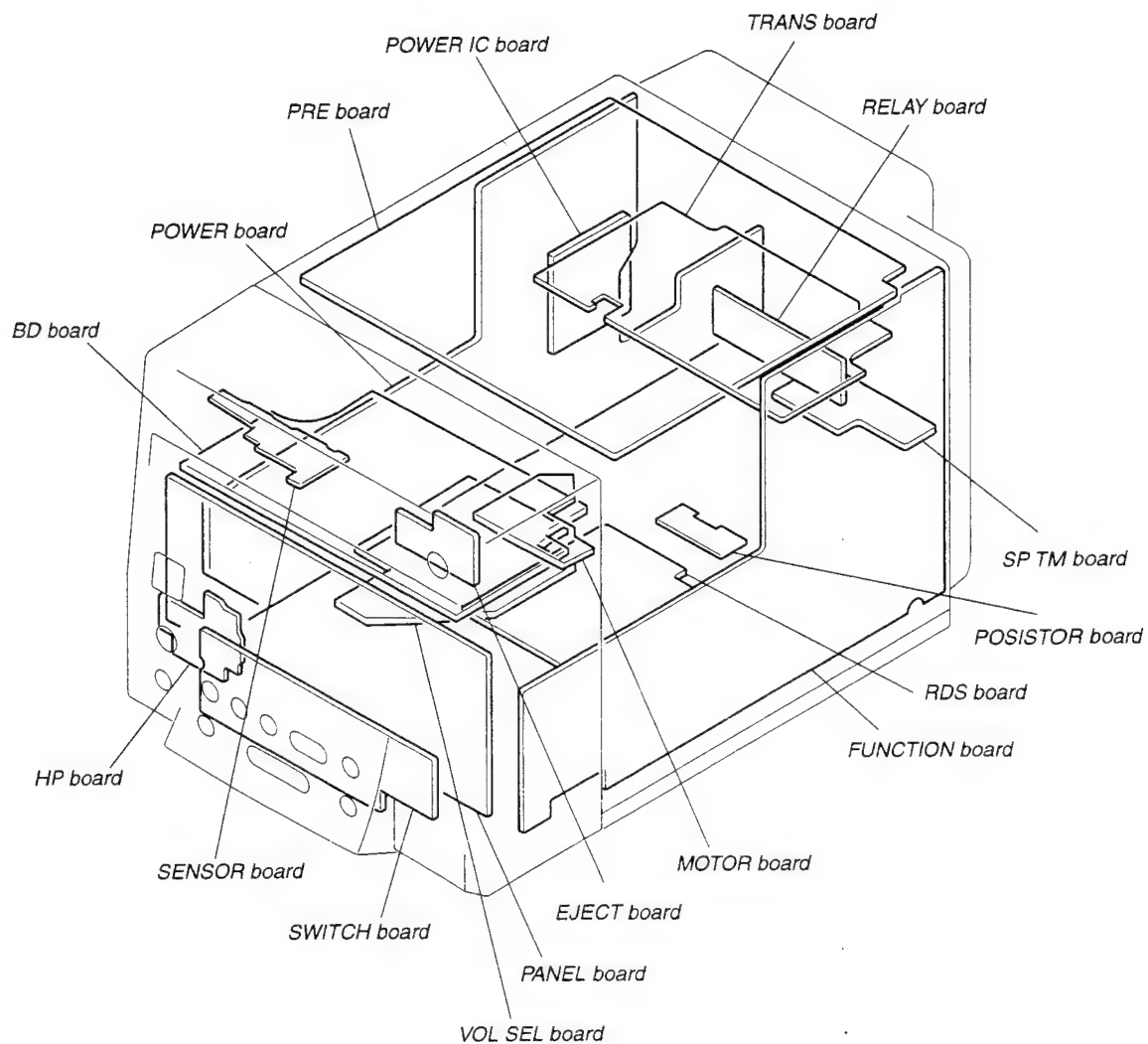




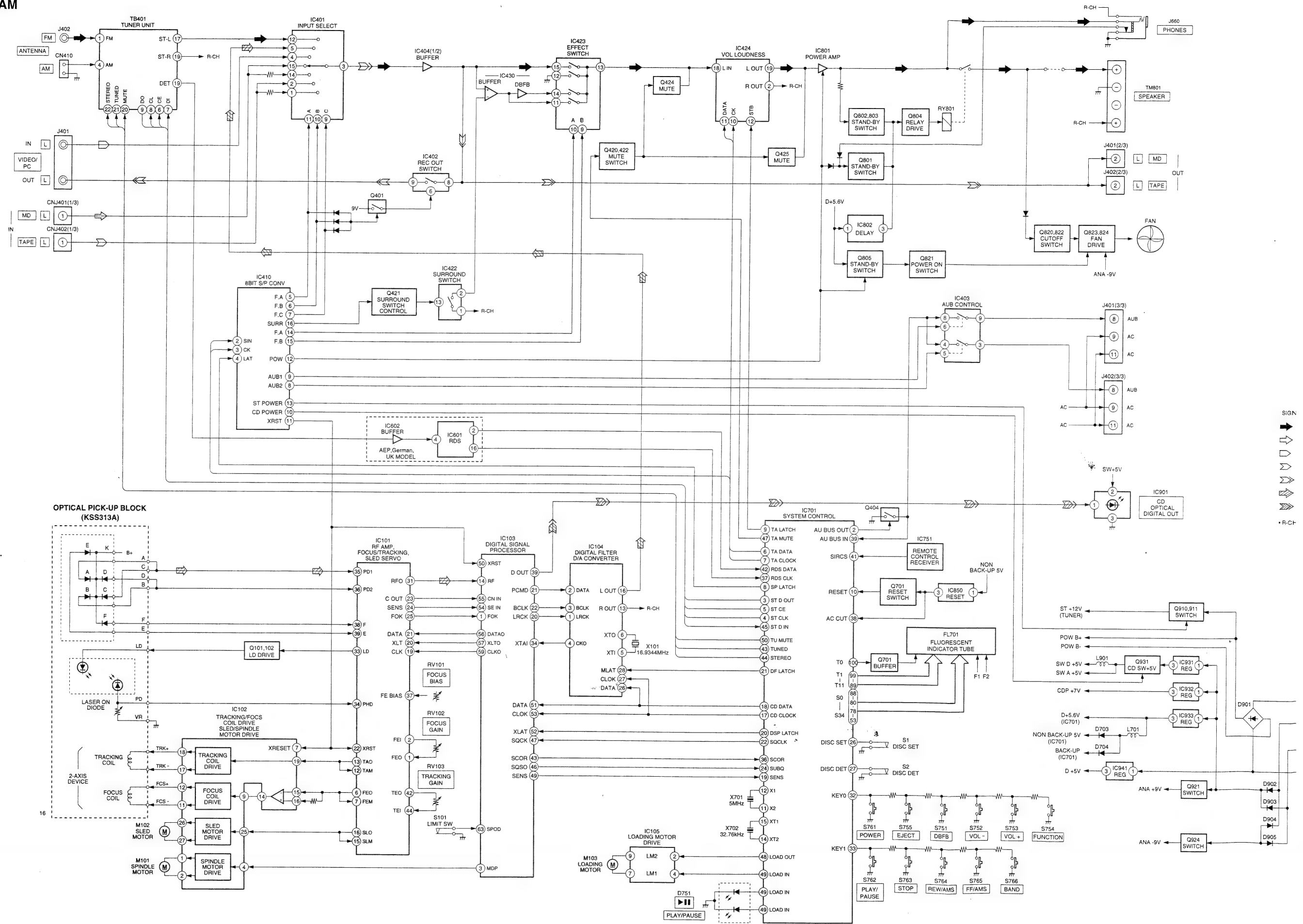


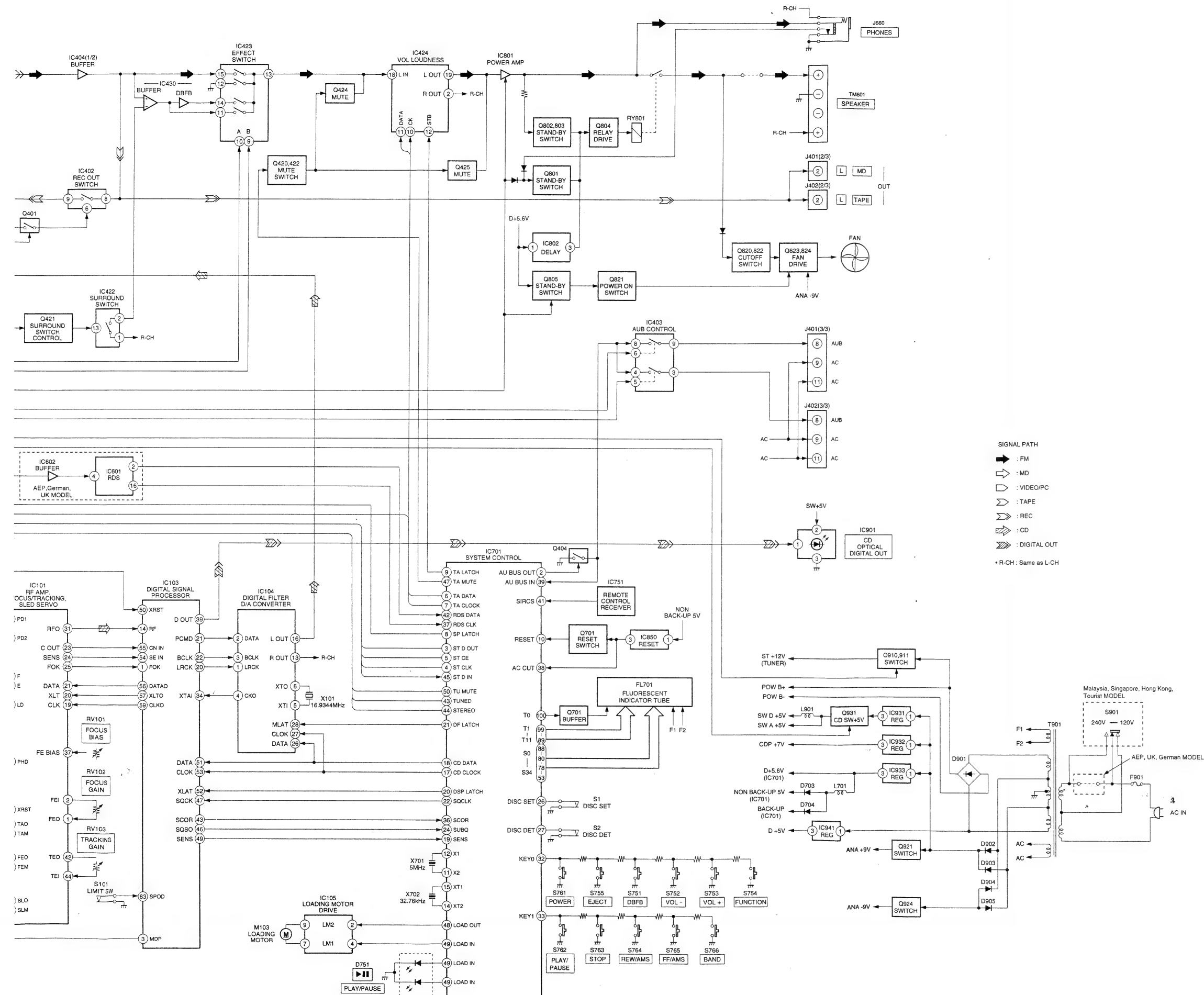
## SECTION 5 DIAGRAMS

### 5-1. CIRCUIT BOARDS LOCATION



5-2. BLOCK DIAGRAM

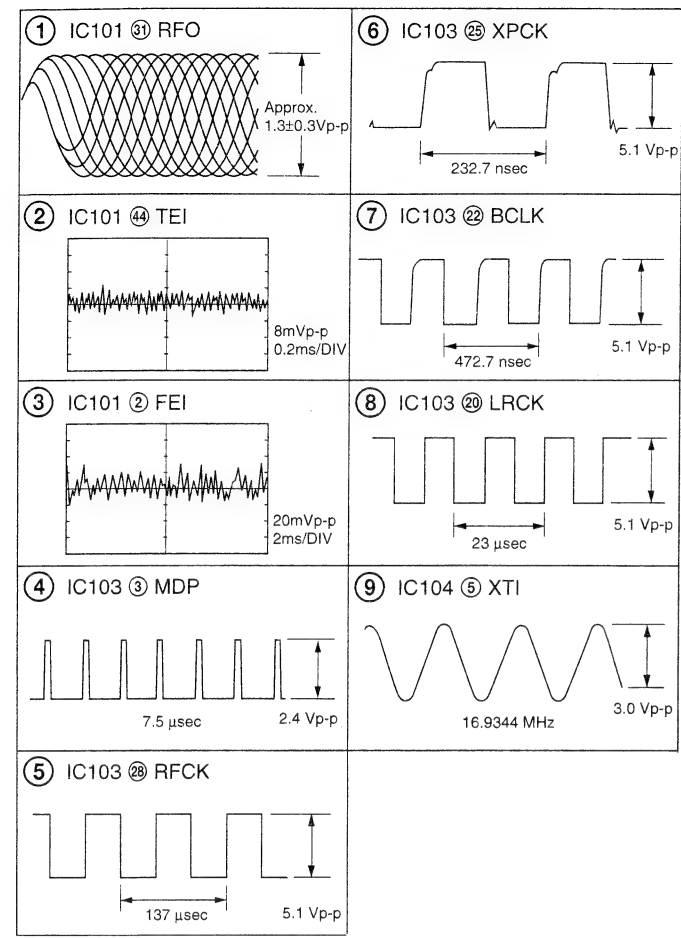




HCD-101

5-3. SCHEMATIC DIAGRAM — BD SECTION —

• Waveform

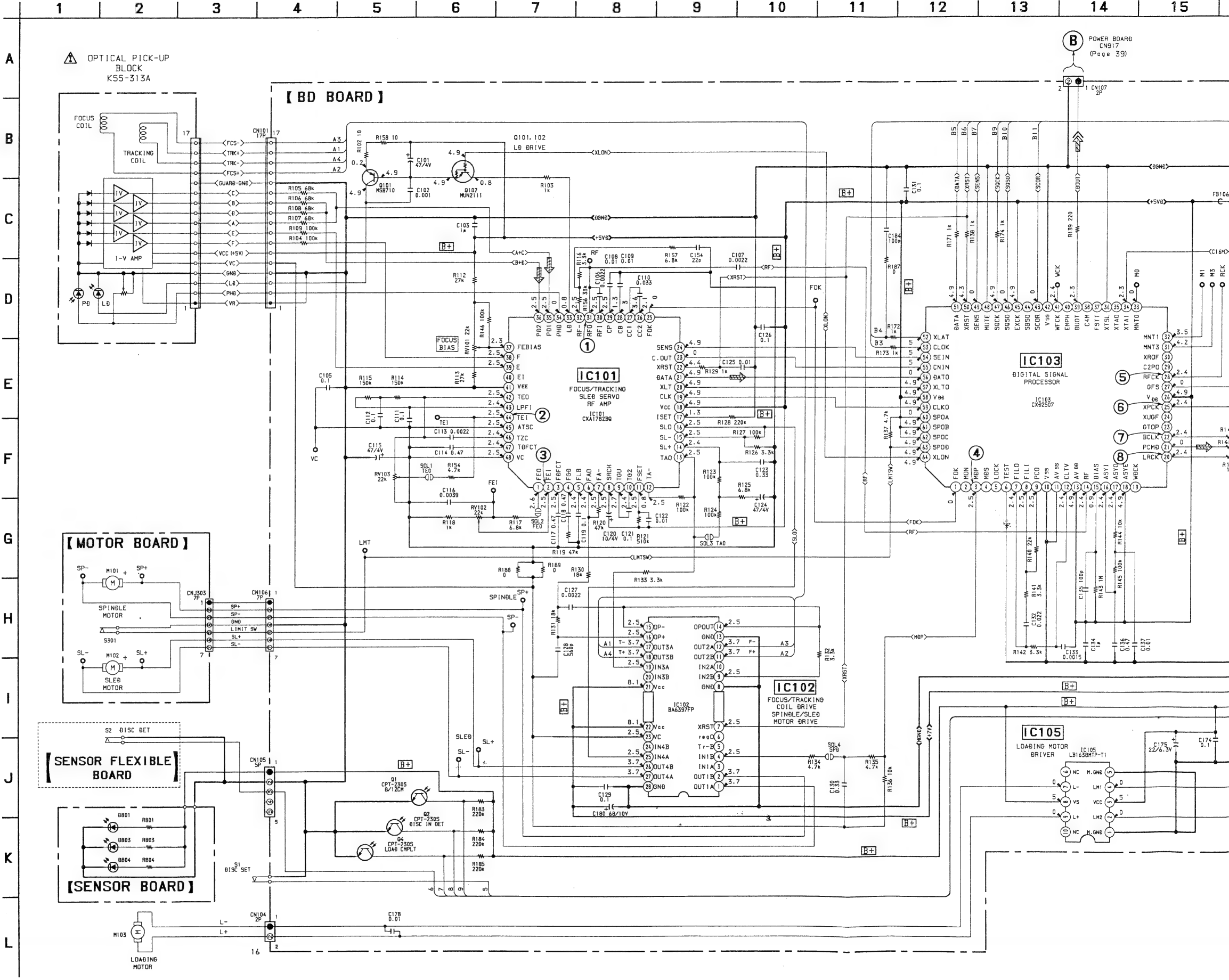


**Note:**

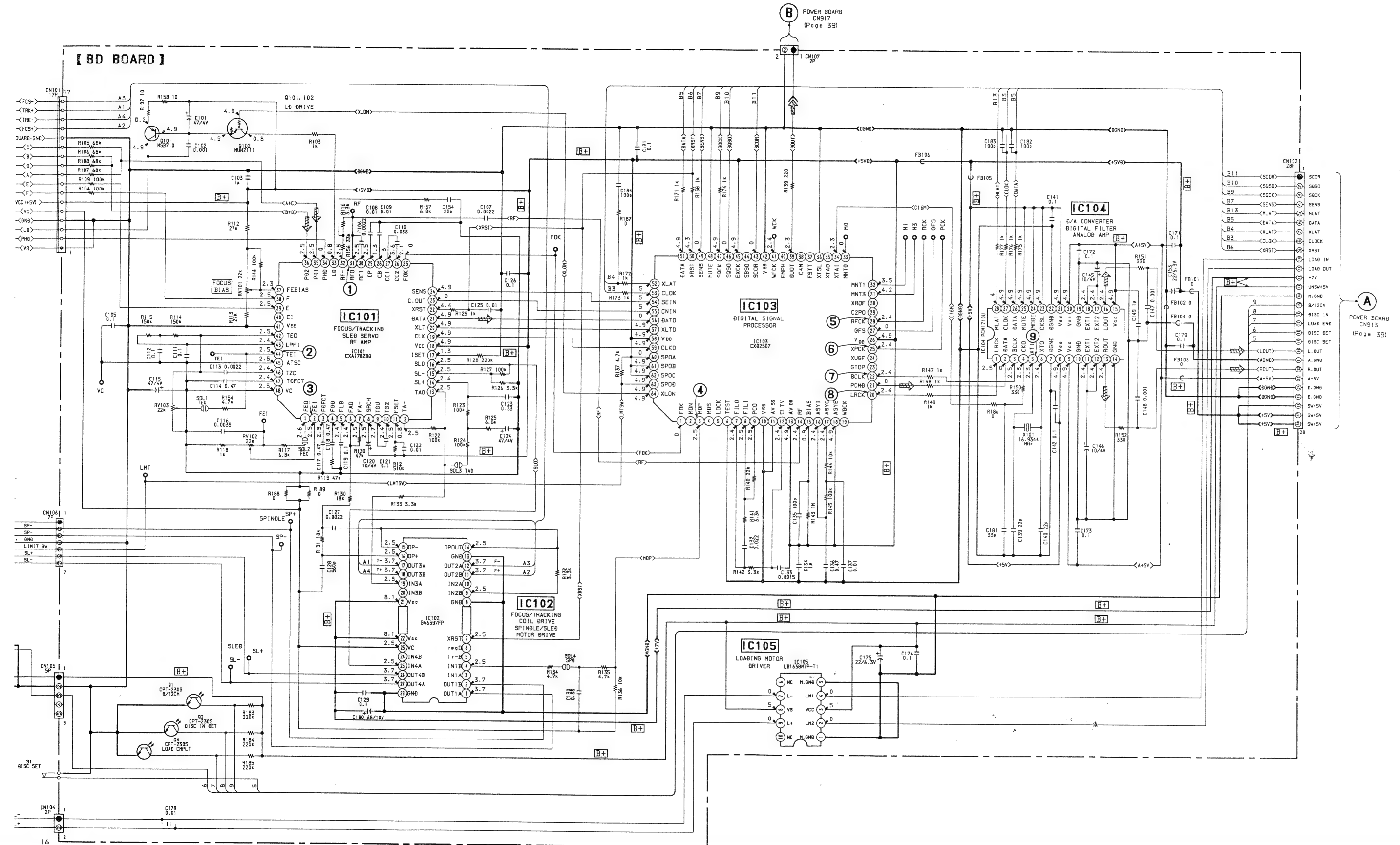
- All capacitors are in μF unless otherwise noted. pF: μμF
- 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

**Note:** The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

- **B+** : B+ Line.
- $\square$  : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark : CD STOP
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- $\Rightarrow$  : CD
- $\Rightarrow$  : DIGITAL OUT

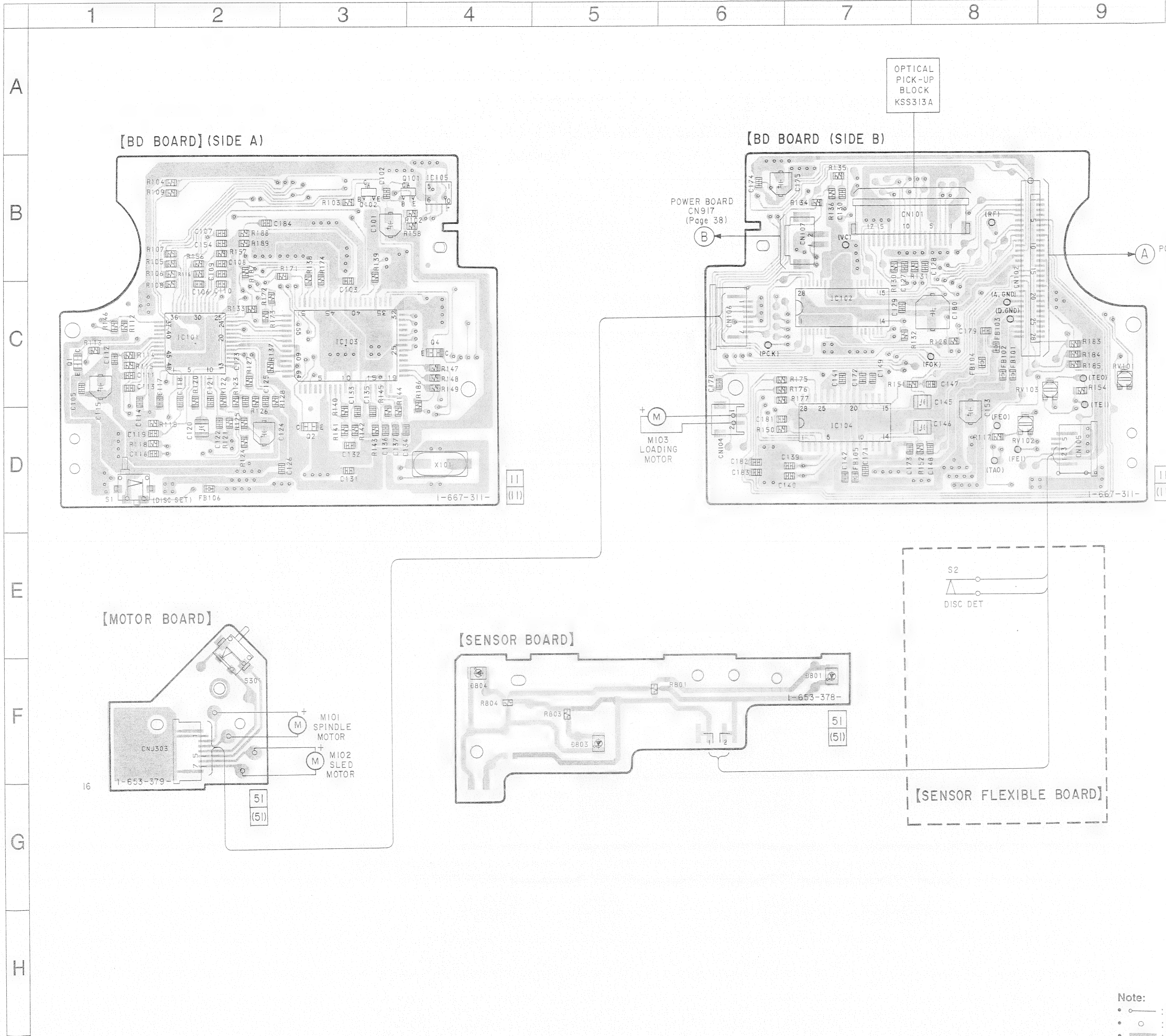


【BD BOARD】





5-4. PRINTED WIRING BOARD — BD SECTION —



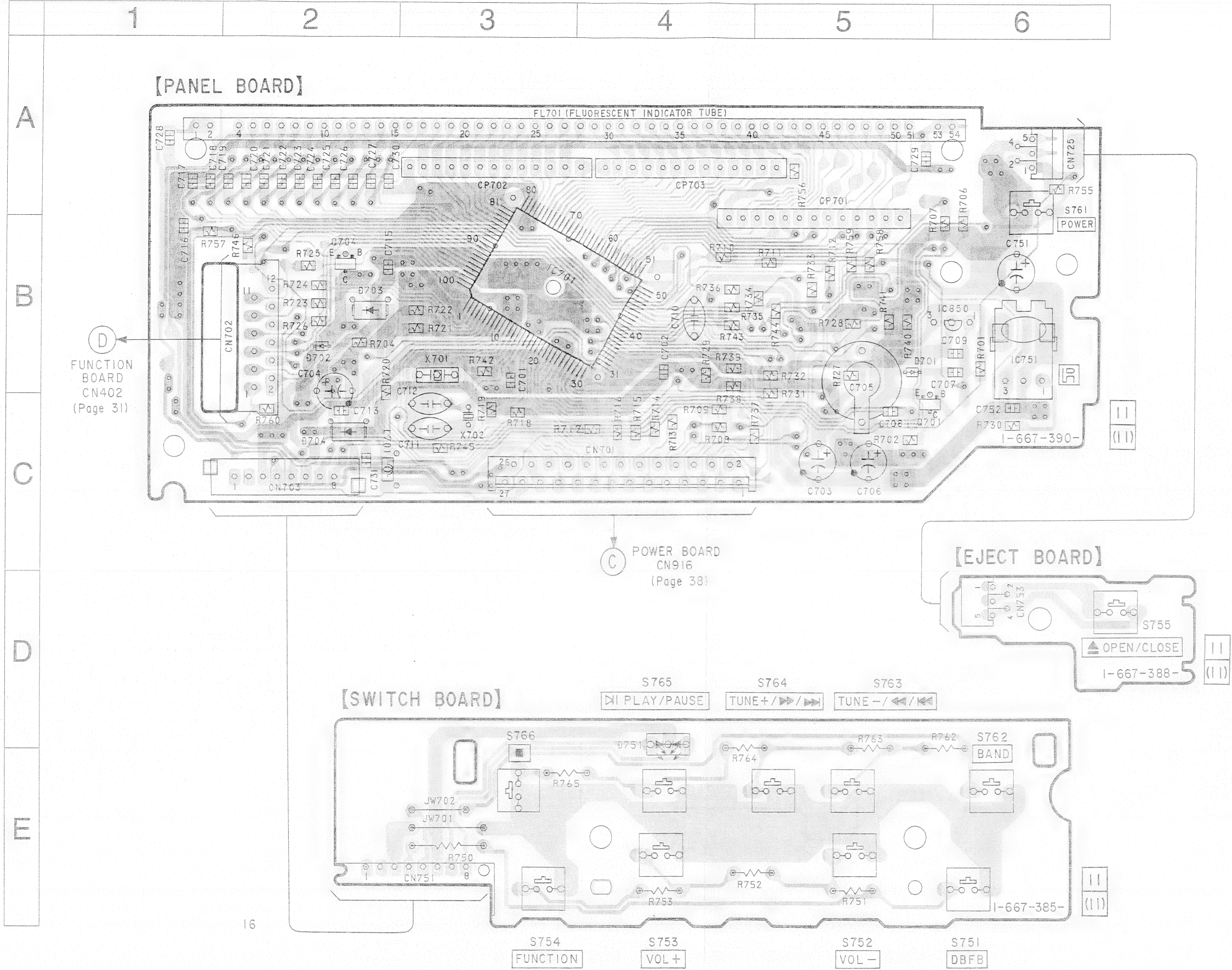
• Semiconductor Location

Ref. No.	Location
D801	F-7
D803	F-5
D804	F-4
IC101	C-2
IC102	C-7
IC103	C-3
IC104	D-7
IC105	B-4
Q1	C-1
Q2	D-3
Q4	C-4
Q101	B-4
Q102	B-3

Note:  
• — : parts extracted from the component side.  
• ○ : Through hole.  
• — : Parts on the side which is seen.

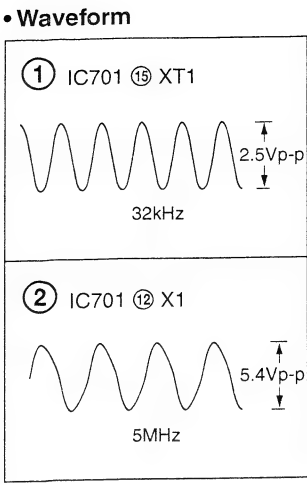
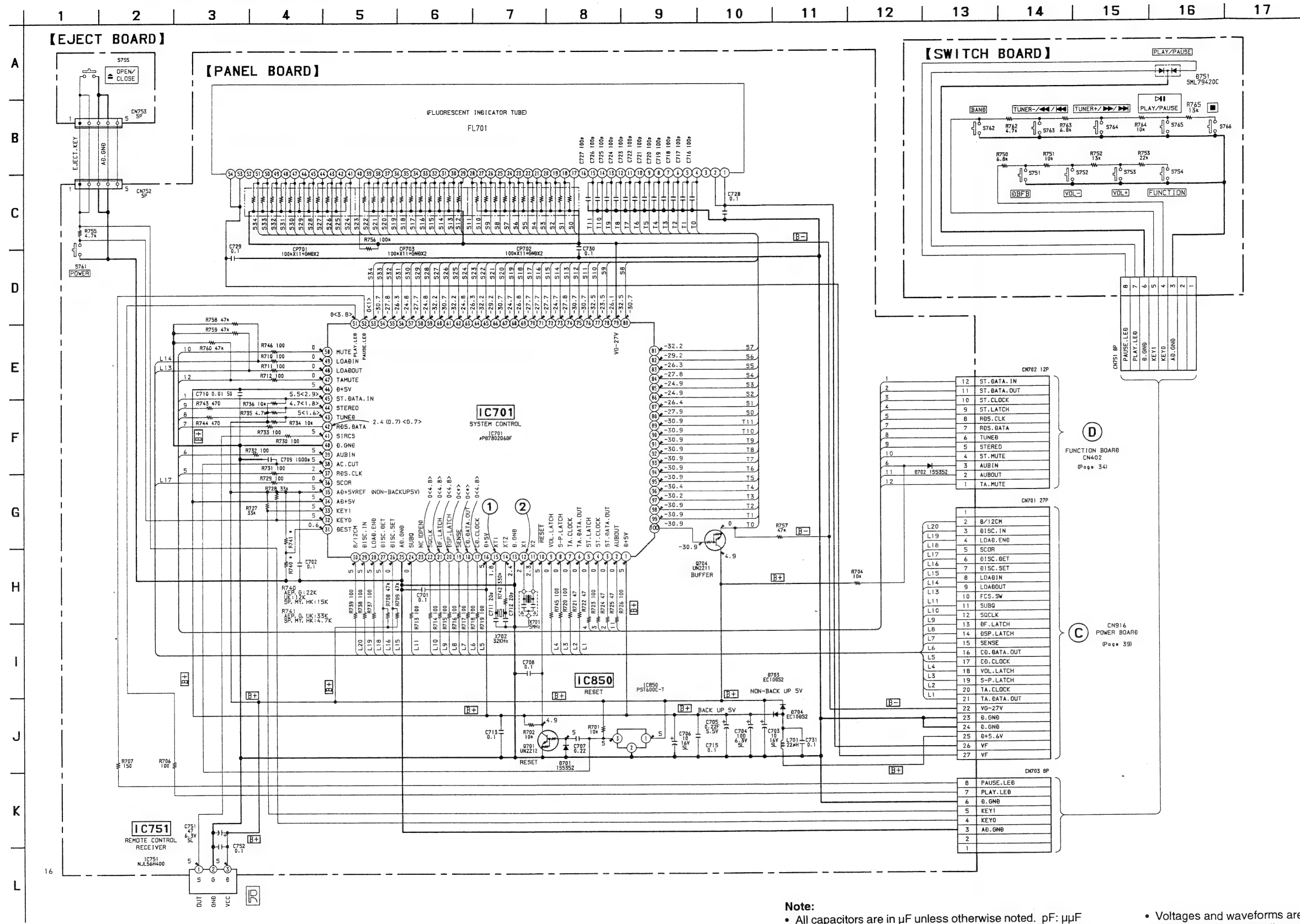
5-5. PRINTED WIRING BOARD — PANEL SECTION —

• Semiconductor Location	
Ref. No.	Location
D701	B-5
D702	B-2
D703	B-2
D704	C-2
D751	D-4
IC701	B-3
IC751	B-6
IC850	B-6
Q701	C-6
Q704	B-2





5-6. SCHEMATIC DIAGRAM — PANEL SECTION —



**Note:**

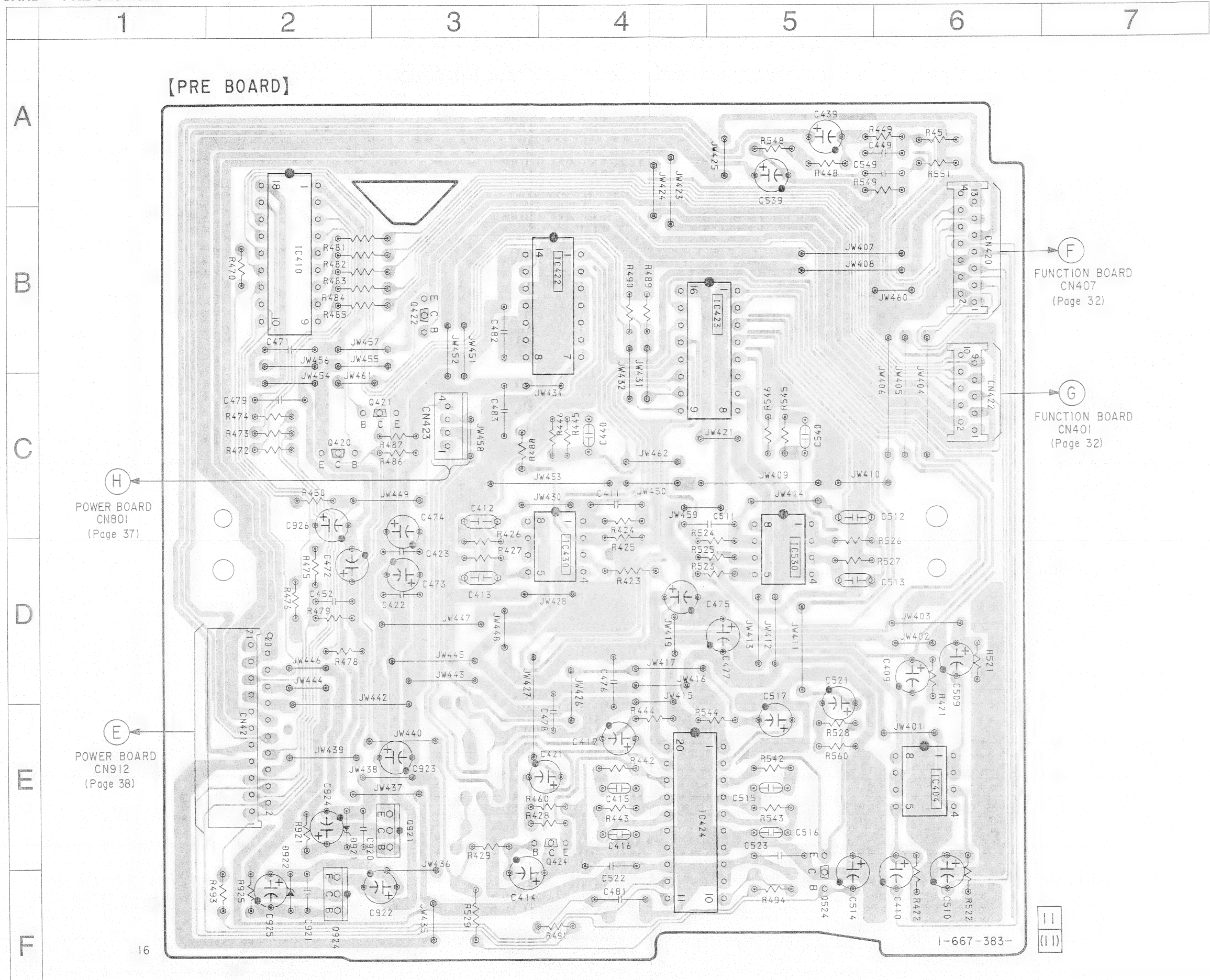
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{pF}$  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{4}\text{W}$  or less unless otherwise specified.
- : panel designation.
- B+ : B+ Line.
- B- : B- Line.

- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.  
no mark : FM  
( ) : AM  
< : CD PLAY
- Voltages are taken with a VOM (Input impedance 10 M $\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.

HCD-101  
5-7. PRINTED WIRING BOARD — PRE SECTION —

• Semiconductor  
Location

Ref. No.	Location
D921	E-2
D922	F-2
IC404	E-6
IC410	B-2
IC422	B-4
IC423	B-5
IC424	E-4
IC430	D-4
IC530	D-5
Q420	C-2
Q421	C-3
Q422	B-3
Q424	E-4
Q524	F-5
Q921	E-3
Q924	F-2



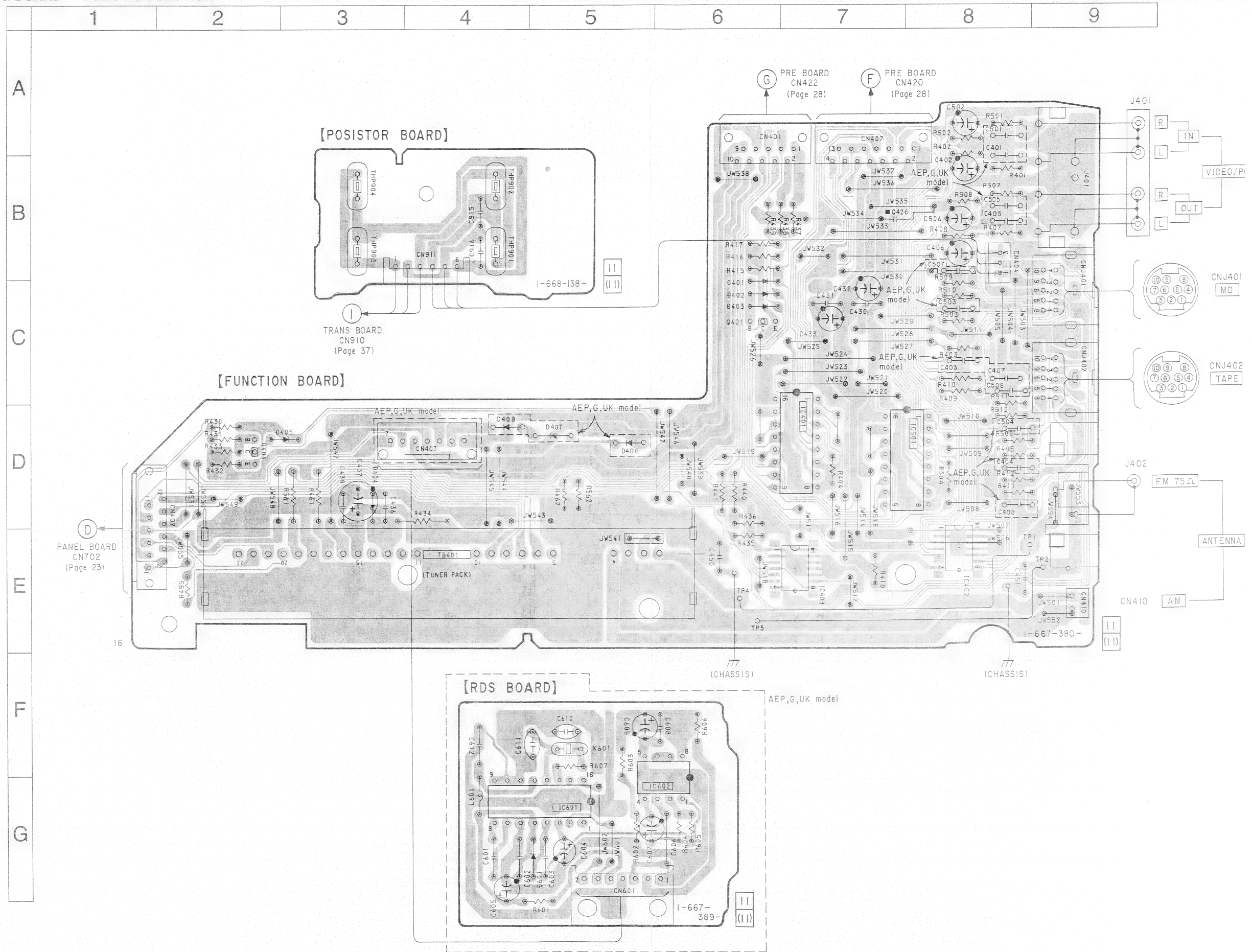
Note:  
• : parts extracted from the component side.  
• : Parts on the side wich is seen.



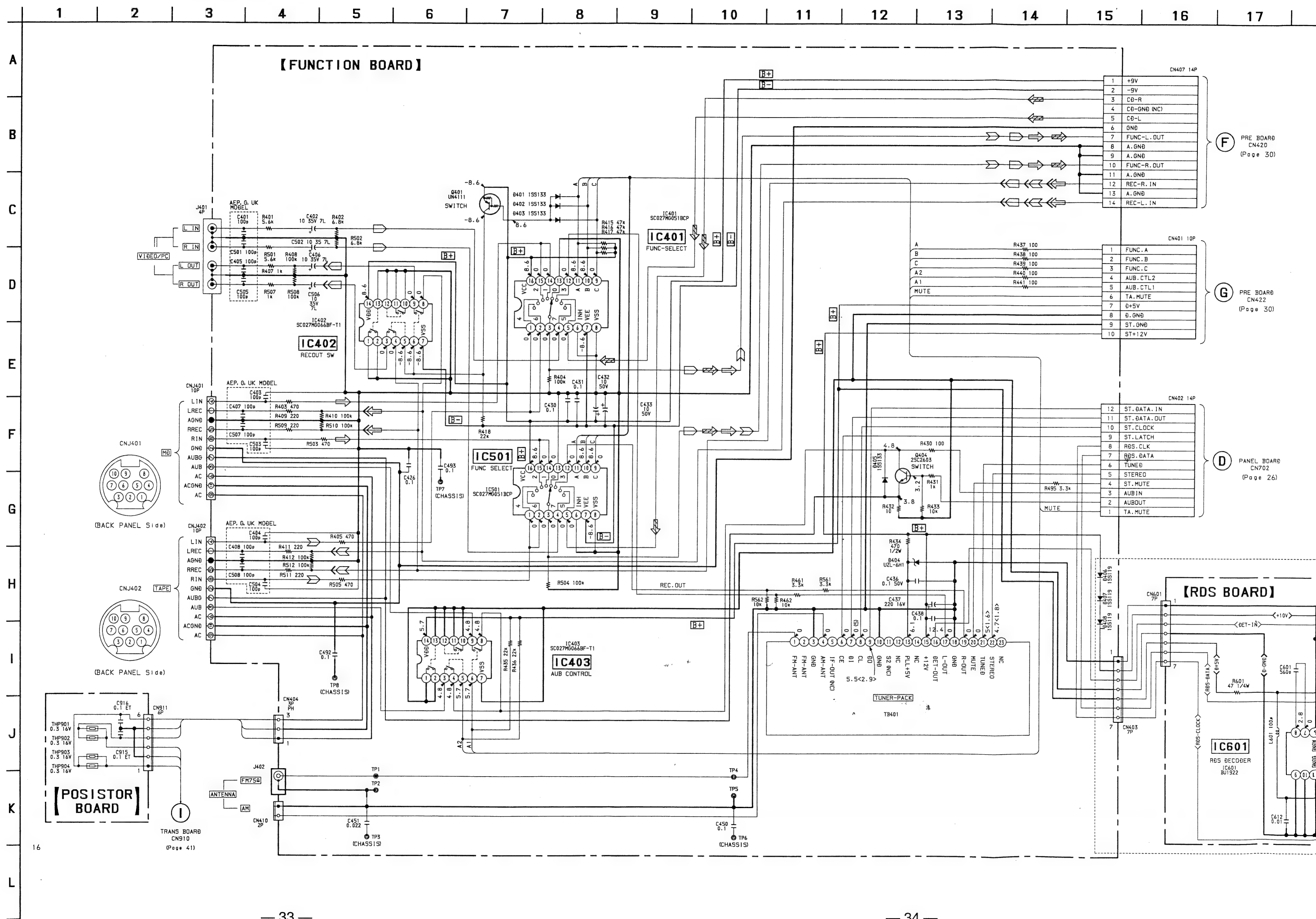


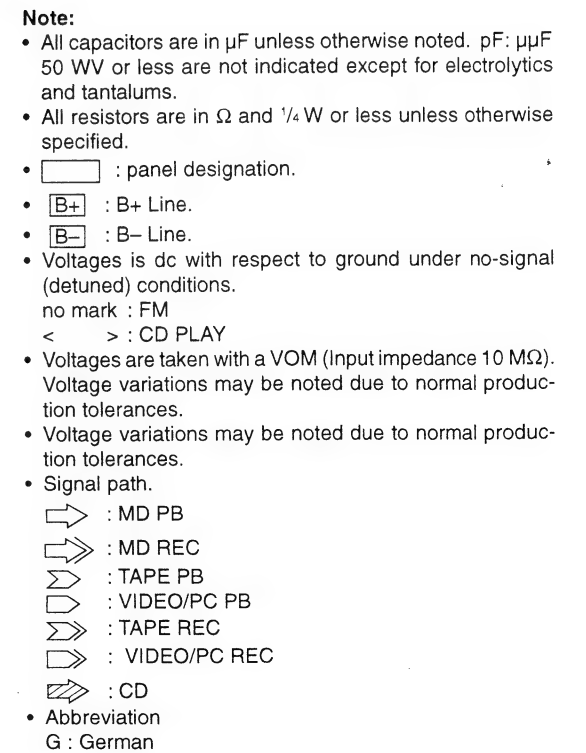
Semiconductor Location

Ref. No.	Location
D401	C-6
D402	C-6
D403	C-6
D404	D-3
D405	D-3
D406	D-5
D407	D-5
D408	D-4
D601	G-5
IC401	D-7
IC402	E-8
IC403	E-7
IC501	D-8
IC601	G-5
IC602	G-6
Q401	C-6
Q404	D-2



5-10. SCHEMATIC DIAGRAM — FUNCTION SECTION —





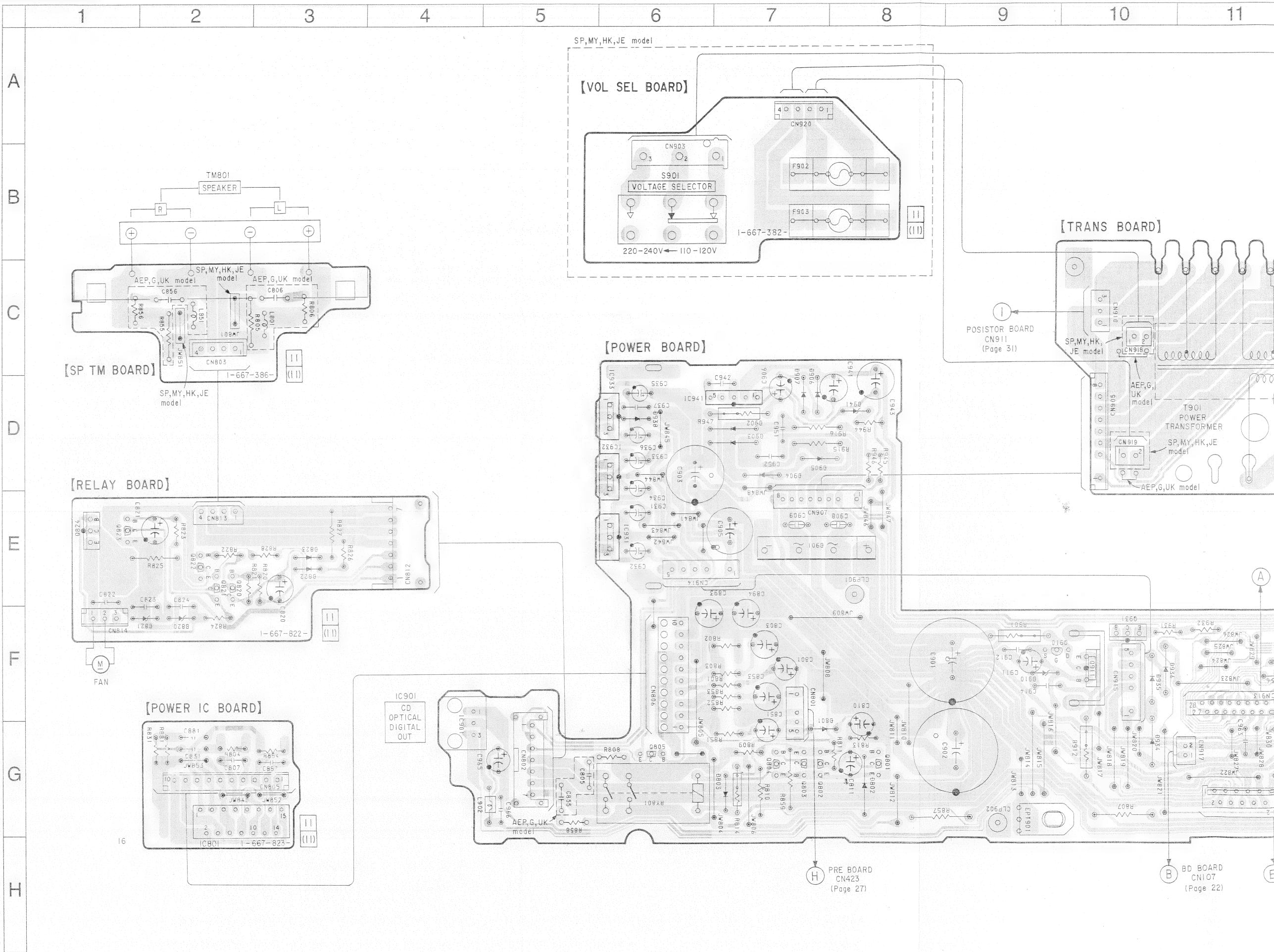


• Semiconductor Location

Ref. No.	Location
D801	G-7
D802	G-8
D803	G-7
D820	F-2
D821	F-2
D822	E-3
D823	E-3
D901	E-7
D902	D-7
D903	D-7
D904	D-7
D905	D-7
D906	D-7
D907	D-7
D910	F-9
D934	G-10
D935	F-10
D936	F-10
D938	D-6
D941	D-8
IC801	G-2
IC802	???
IC901	F-4
IC931	E-6
IC932	D-6
IC933	D-6
IC941	D-7
Q801	G-8
Q802	G-7
Q803	G-7
Q804	G-7
Q805	G-6
Q820	E-2
Q821	E-2
Q822	E-2
Q823	E-1
Q824	E-1
Q910	F-9
Q911	F-10
Q931	F-10

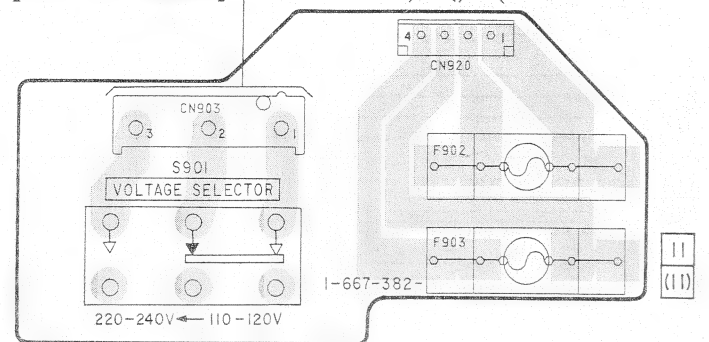
Note:

- — : parts extracted from the component side.
- — : Parts on the side which is seen.
- Abbreviation  
G : German      MY : Malaysia  
JE : Tourist      SP : Singapore  
HK : Hong Kong

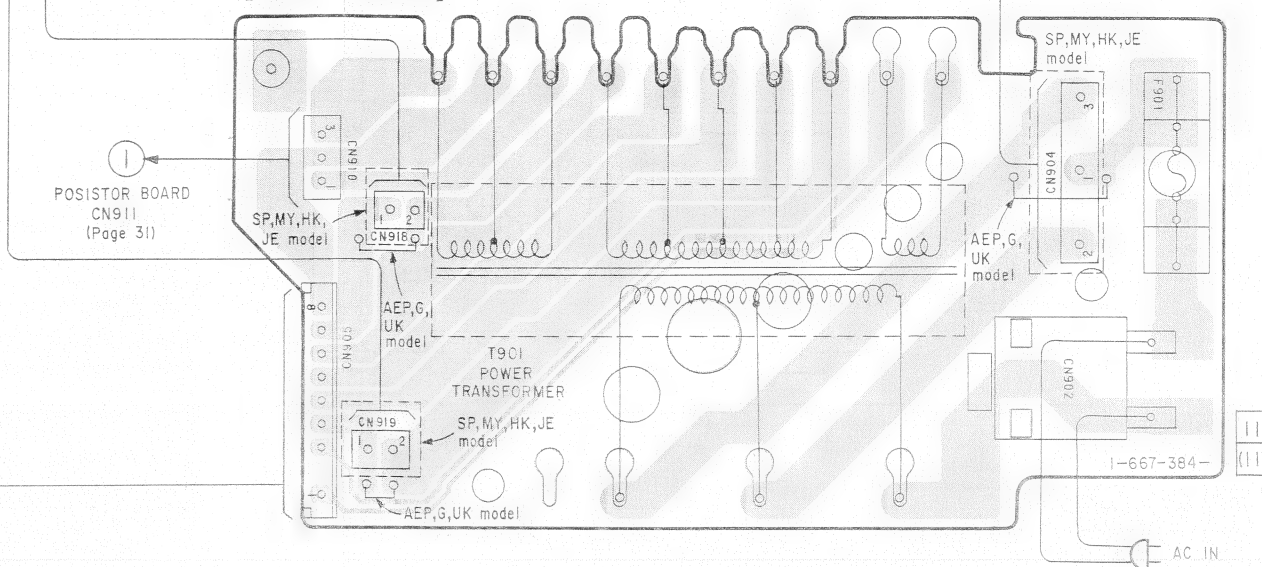


SP,MY,HK,JE model

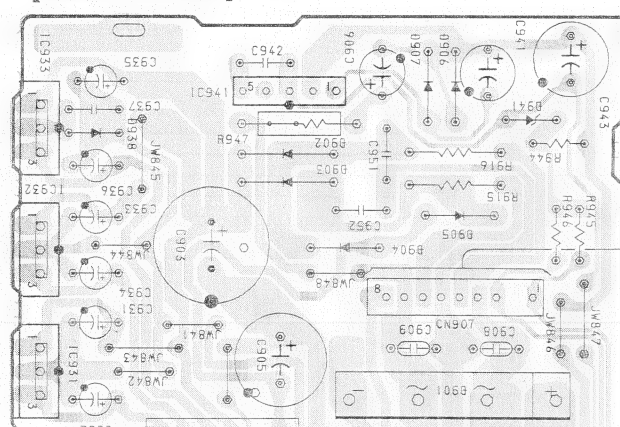
**[VOL SEL BOARD]**



**[TRANS BOARD]**



**[POWER BOARD]**



POSISTOR BOARD  
CN911  
(Page 31)

SP,MY,HK,  
JE model

AEP,G,  
UK model

T901  
POWER  
TRANSFORMER

SP,MY,HK,JE  
model

AEP,G,UK model

SP,MY,HK,JE  
model

AEP,G,  
UK model

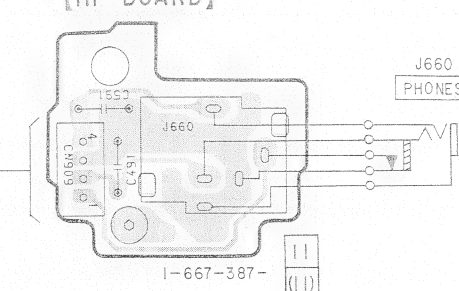
1-667-384-

AC IN

A BD BOARD  
CN102  
(Page 22)

C PANEL BOARD  
CN701  
(Page 24)

**[HP BOARD]**



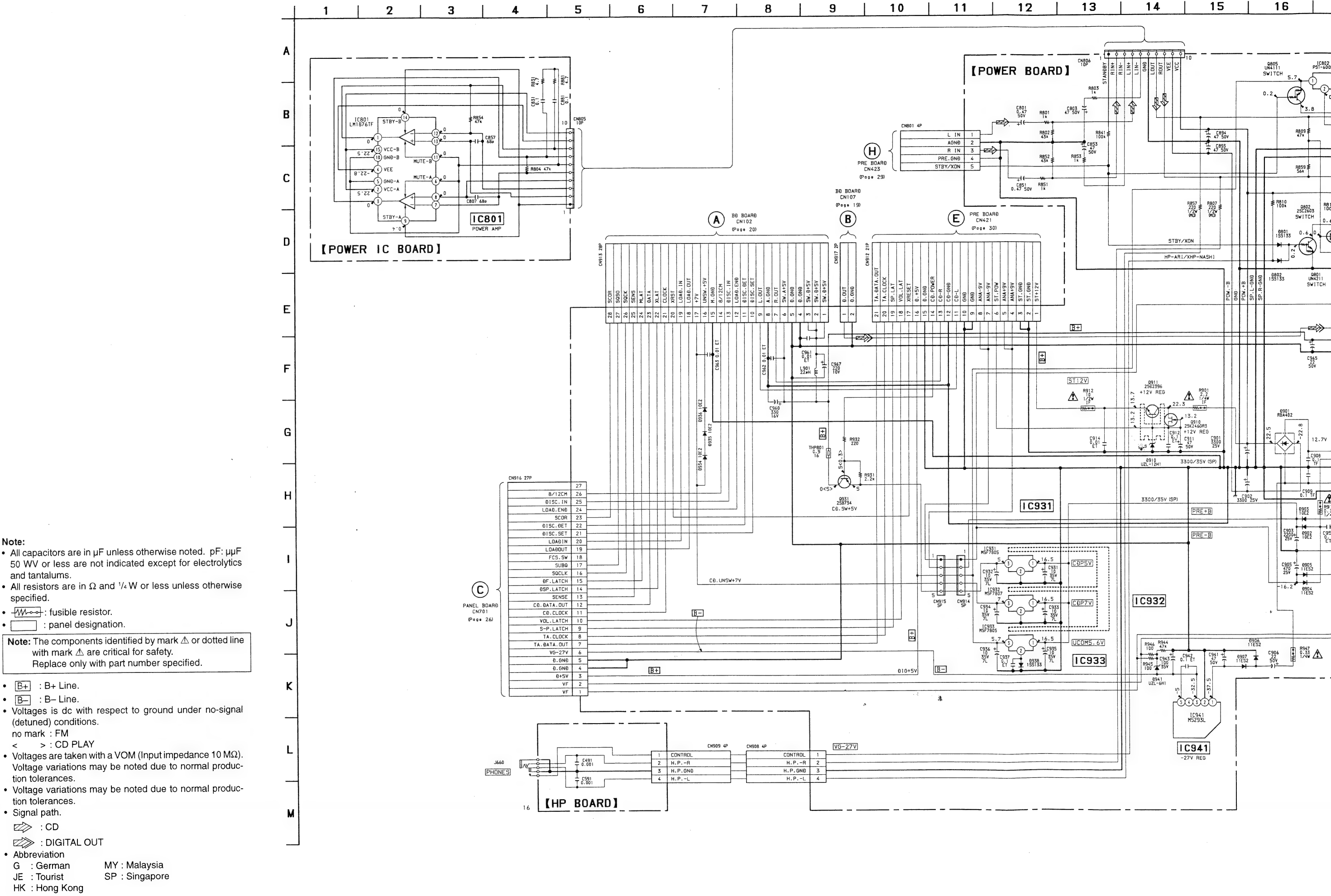
1-667-387-

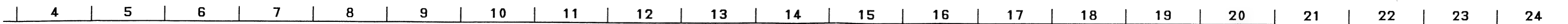
H PRE BOARD  
CN423  
(Page 27)

B BD BOARD  
CN107  
(Page 22)

E PRE BOARD  
CN421  
(Page 27)





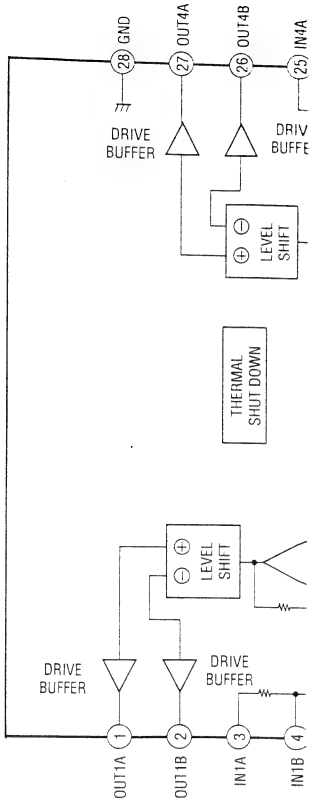


5-13. IC PIN FUNCTION  
• IC701 μPD780206GF-023-3BA

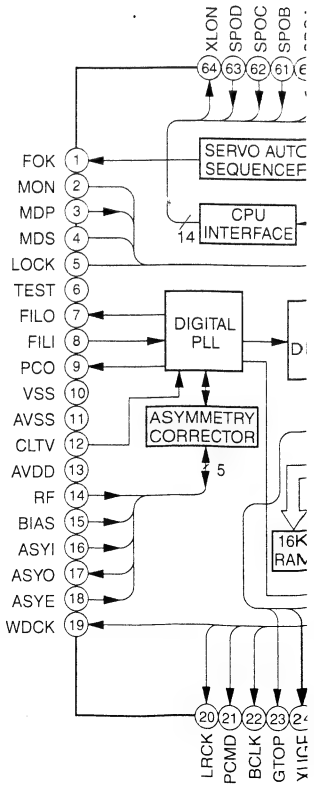
Pin No.	Pin Name	I/O	Description
1	D+5V	—	Power supply (+5V)
2	AUB OUT	O	AU_BUS output
3	ST DATA OUT	O	Tuner pack (TB401) serial data output
4	ST CLOCK	O	Tuner pack (TB401) clock output
5	ST LATCH	O	Tuner pack (TB401) latch output
6	TA DATA OUT	O	Data output to electronic VOL (IC424) serial-to-parallel conversion IC (IC410)
7	TA CLOCK	O	Clock output to electronic VOL (IC424) serial-to-parallel conversion IC (IC410)
8	LATCH (S.P)	O	Latch output to serial-to-parallel conversion IC (IC410)
9	LATCH (VOL)	O	Latch output to electronic VOL (IC424)
10	RESET	I	SYSTEM RESET
11	X2	O	Main clock oscillator output (5MHz)
12	X1	I	Main clock oscillator input (5MHz)
13	D.GND	—	Connected to Vss
14	XT2	O	Watch oscillator output (32.768 kHz)
15	XT1	I	Watch oscillator input (32.768 kHz)
16	D+5V	—	Positive power supply (+5V)
17	CD CLOCK	O	CD clock output
18	CD DATA	O	CD data output
19	SENSE	I	CD DSP sense input
20	DSP LATCH	O	CD DSP latch output
21	DF LATCH	O	CD D/A latch output
22	SQCLK	O	CD Sub Q clock output
23	(OPEN)	—	(Not used)
24	SUBQ	I	Sub Q data input
25	AD.GND	—	Ground
26	DISC SET	I	CDM chucking sensor
27	DISC DET	I	CDM disc sensor
28	LOAD END	I	CDM disc sensor
29	DISC IN	I	CDM disc sensor
30	DISC 8/12	I	CDM disc sensor
31	DEST	I	Identification input of destination
32	KEY0	I	Key input
33	KEY 1	I	Key input
34	AD+5V	—	Built-in A/D converter analog power supply (+5V)
35	AD+5V REF	—	Built-in A/D converter reference voltage input (+5V)
36	SCOR	I	DSP SCOR input
37	RDS.CLOCK	I	DSP clock input
38	AC.CUT	I	AC power off detection
39	AUB IN	I	AU_BUS input
40	D.GND	—	Ground
41	SIRCS	I	SIRCS remote control input
42	RDS.DATA	—	(Not used)
43	TUNED	I	Tuner pack (TB401) TUNED input
44	STEREO	I	Tuner pack (TB401) STEREO input
45	ST DATA	I	Tuner pack (TB401) DATA input
46	D+5V	—	Positive power supply (+5V)
47	TA.MUTE	O	TA mute output
48	LOAD OUT	O	CDM 50 load output
49	LOAD IN	O	CDM 50 load input
50	ST.MUTE	O	Tuner pack (TB401) mute output

5-14. IC BLOCK DIAGRA

IC 102 BA6397FP



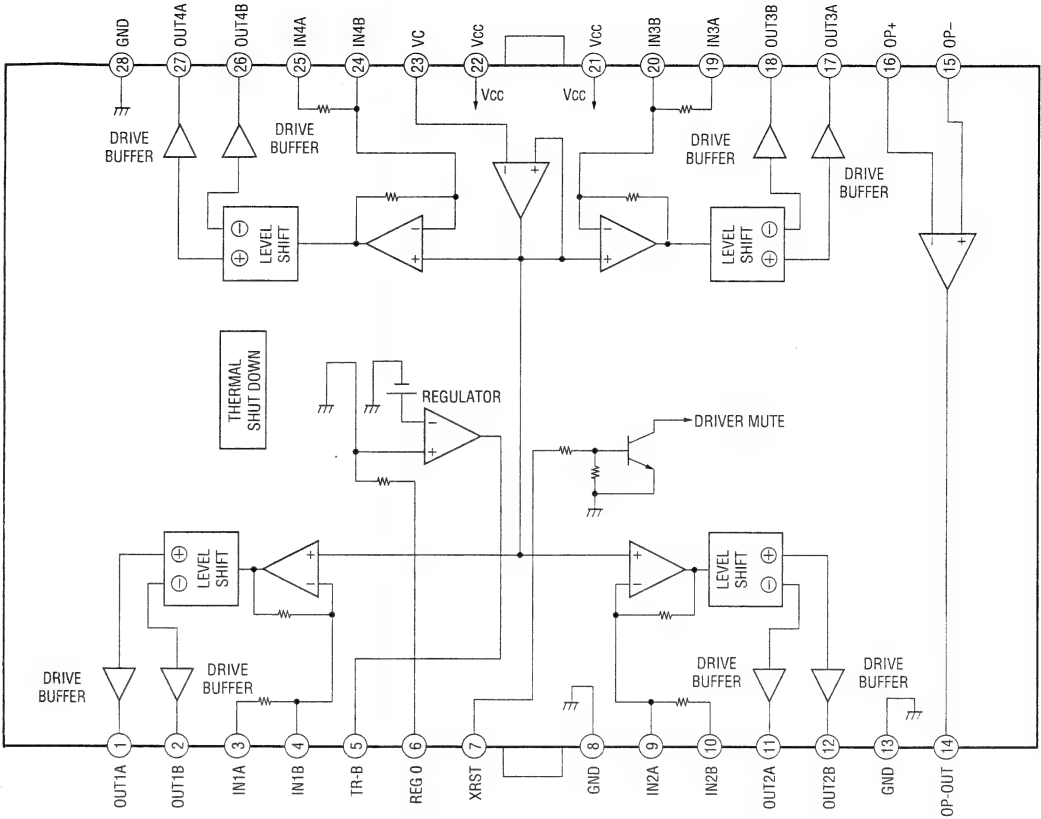
IC103 CXD2507AQ



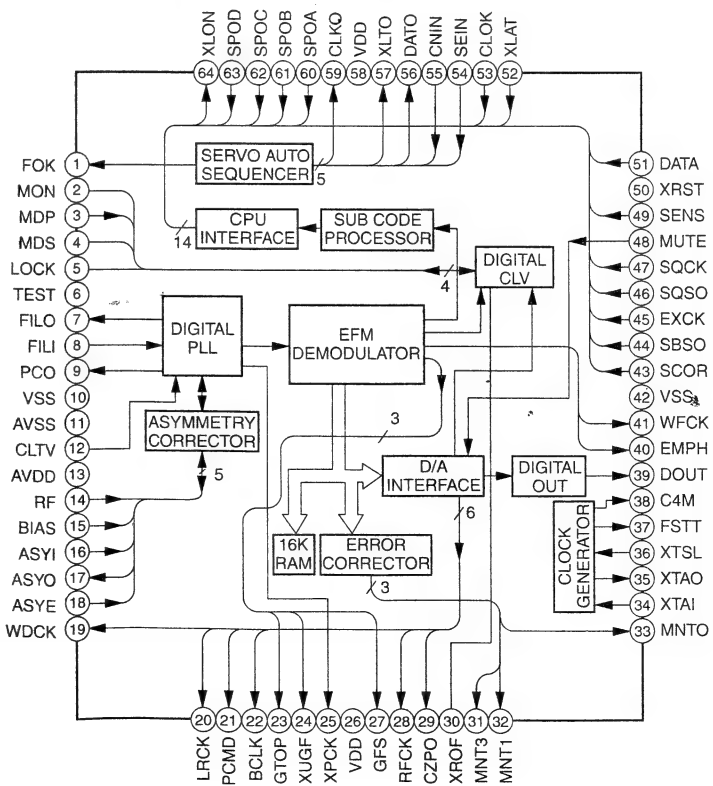
Pin No.	Pin Name	I/O	Description
51	PLAY LED	O	CD PLAY LED output
52	PAUSE LED	O	CD PAUSE LED output
53	S34	O	FL tube segment output
54	S33	O	
55	S32	O	
56	S31	O	
57	S30	O	
58	S29	O	
59	S28	O	
60	S27	O	
61	S26	O	
62	S25	O	
63	S24	O	
64	S23	O	
65	S22	O	
66	S21	O	
67	S20	O	
68	S19	O	
69	S18	O	
70	S17	O	
71	S16	O	FL tube segment output
72	S15	O	
73	S14	O	
74	S13	O	
75	S12	O	
76	S11	O	
77	S10	O	
78	S9	O	
79	VG-27V	—	FIP controller pull-down resistor is connected here (-27V)
80	S8	O	FL tube segment output
81	S7	O	
82	S6	O	
83	S5	O	
84	S4	O	
85	S3	O	
86	S2	O	
87	S1	O	
88	S0	O	
89	T11	O	FL tube grid output
90	T10	O	
91	T9	O	
92	T8	O	
93	T7	O	
94	T6	O	
95	T5	O	
96	T4	O	
97	T3	O	
98	T2	O	
99	T1	O	
100	T0	O	

# 5-14. IC BLOCK DIAGRAMS

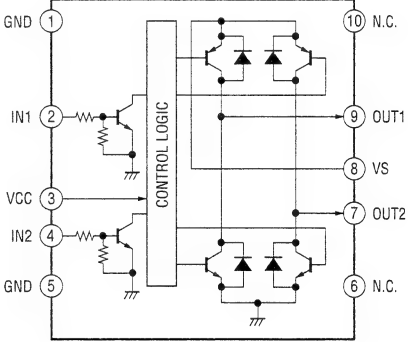
IC 102 BA6397FP



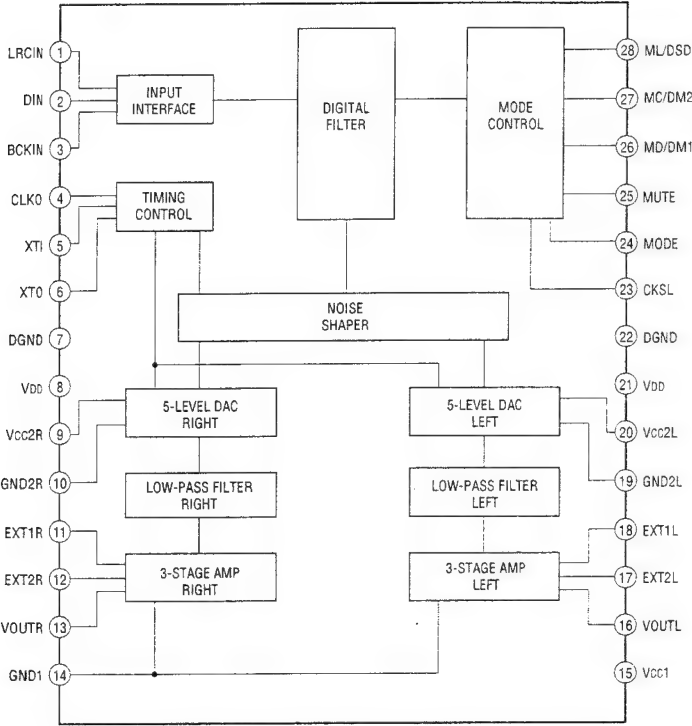
IC103 CXD2507AQ



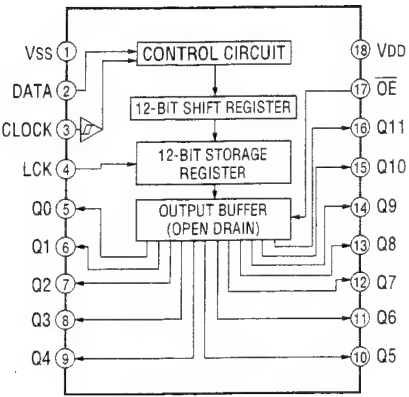
IC105 LB1638M



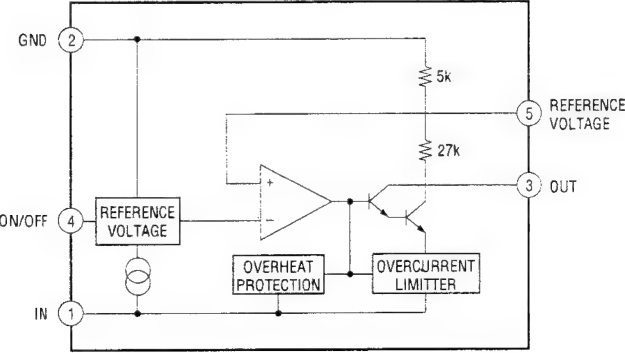
IC104 PCM1710U-B



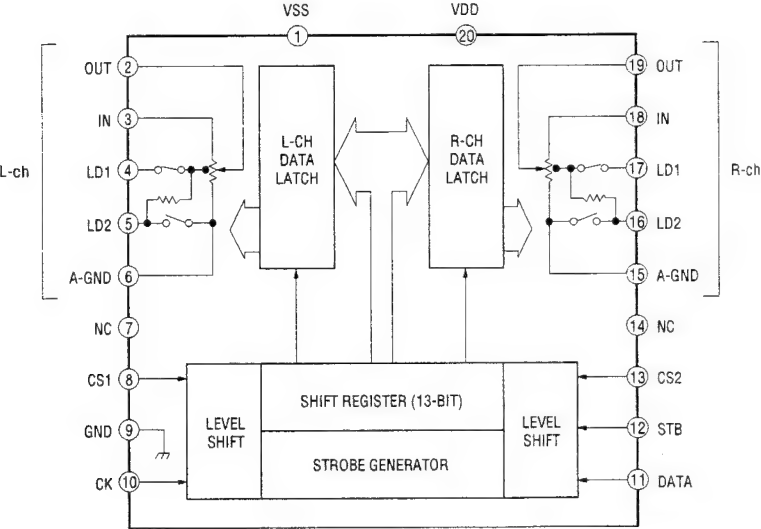
IC410 BU2092

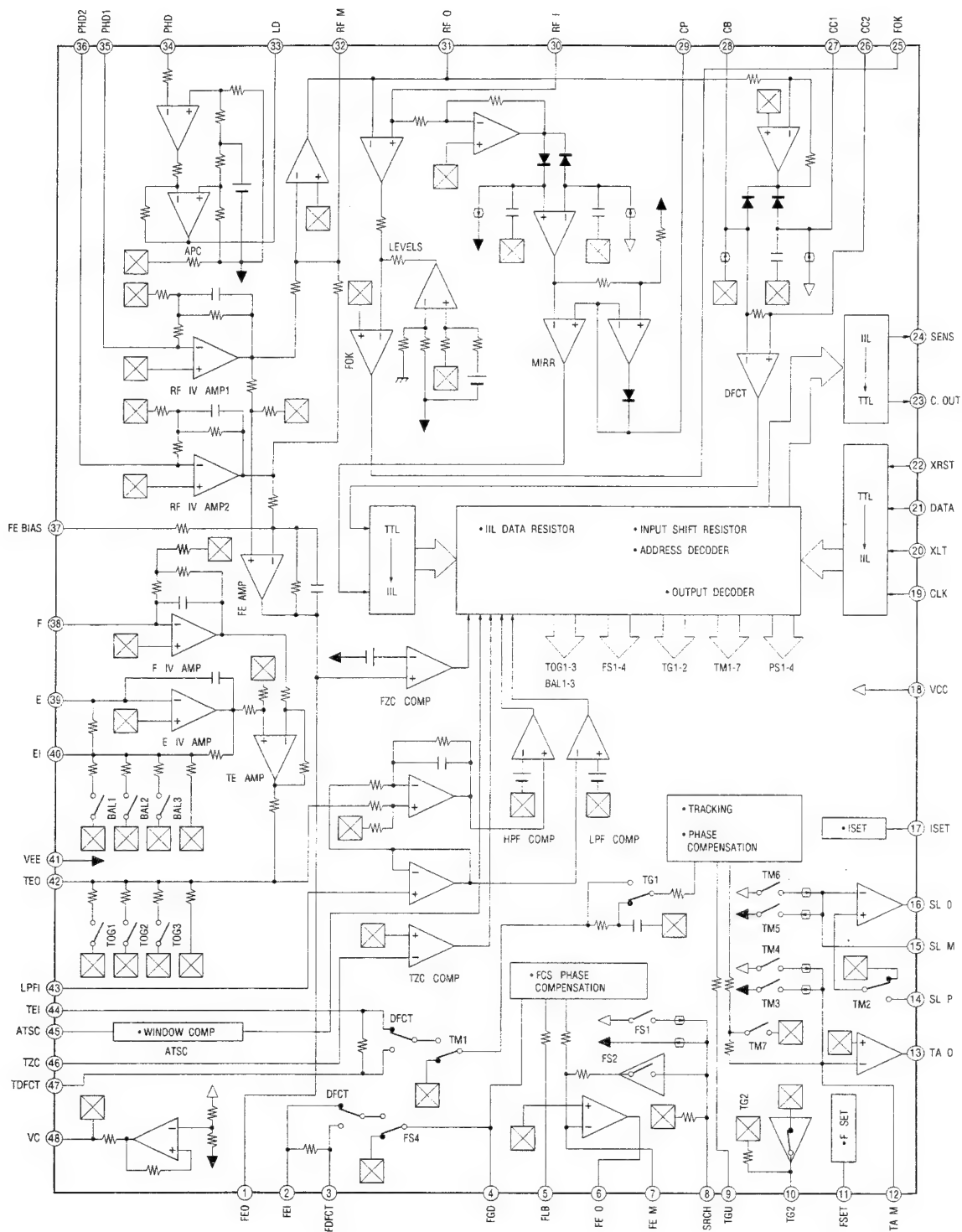


IC941 M5293L



IC424 TC9211P



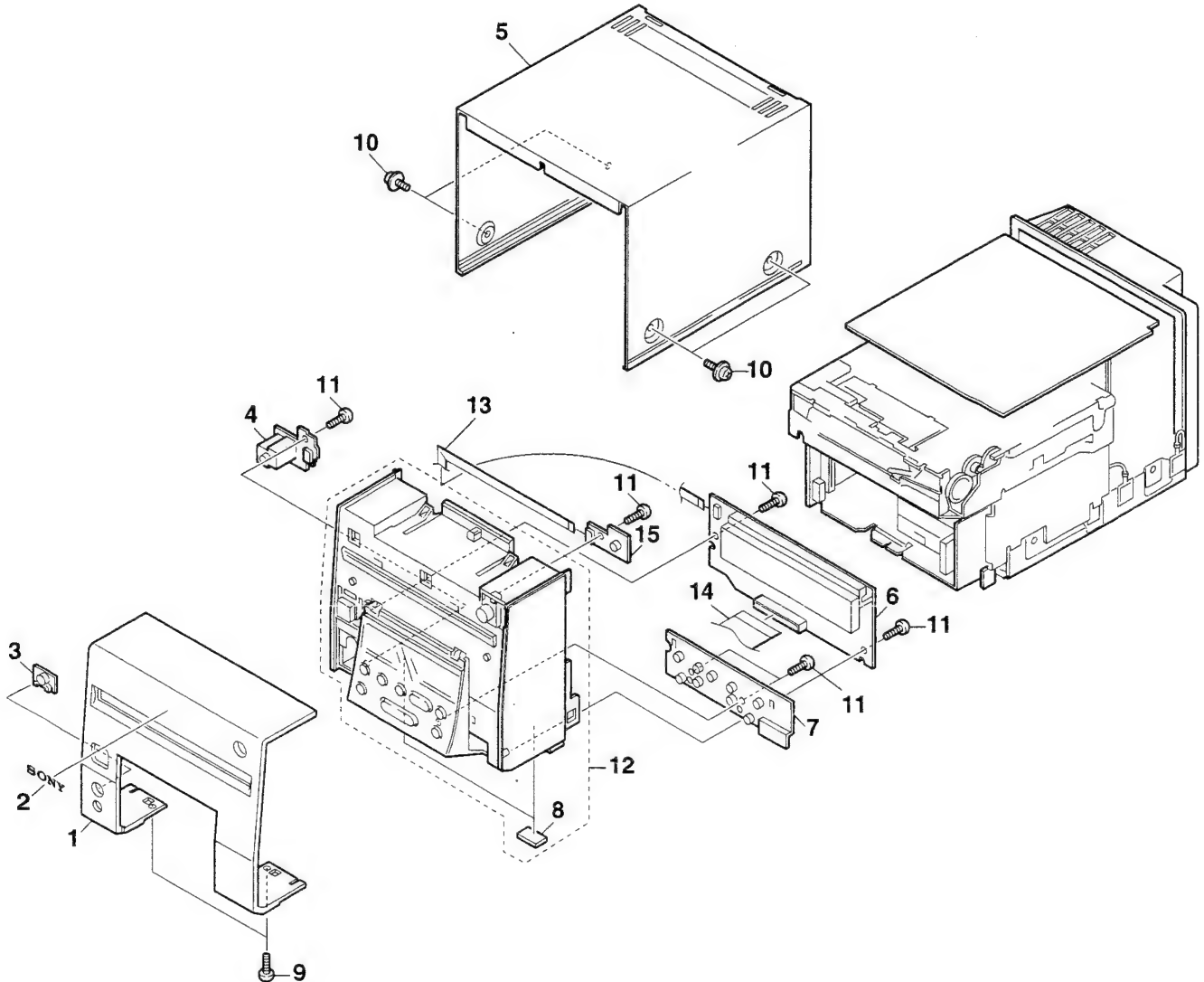


## SECTION 6 EXPLODED VIEWS

### NOTE:

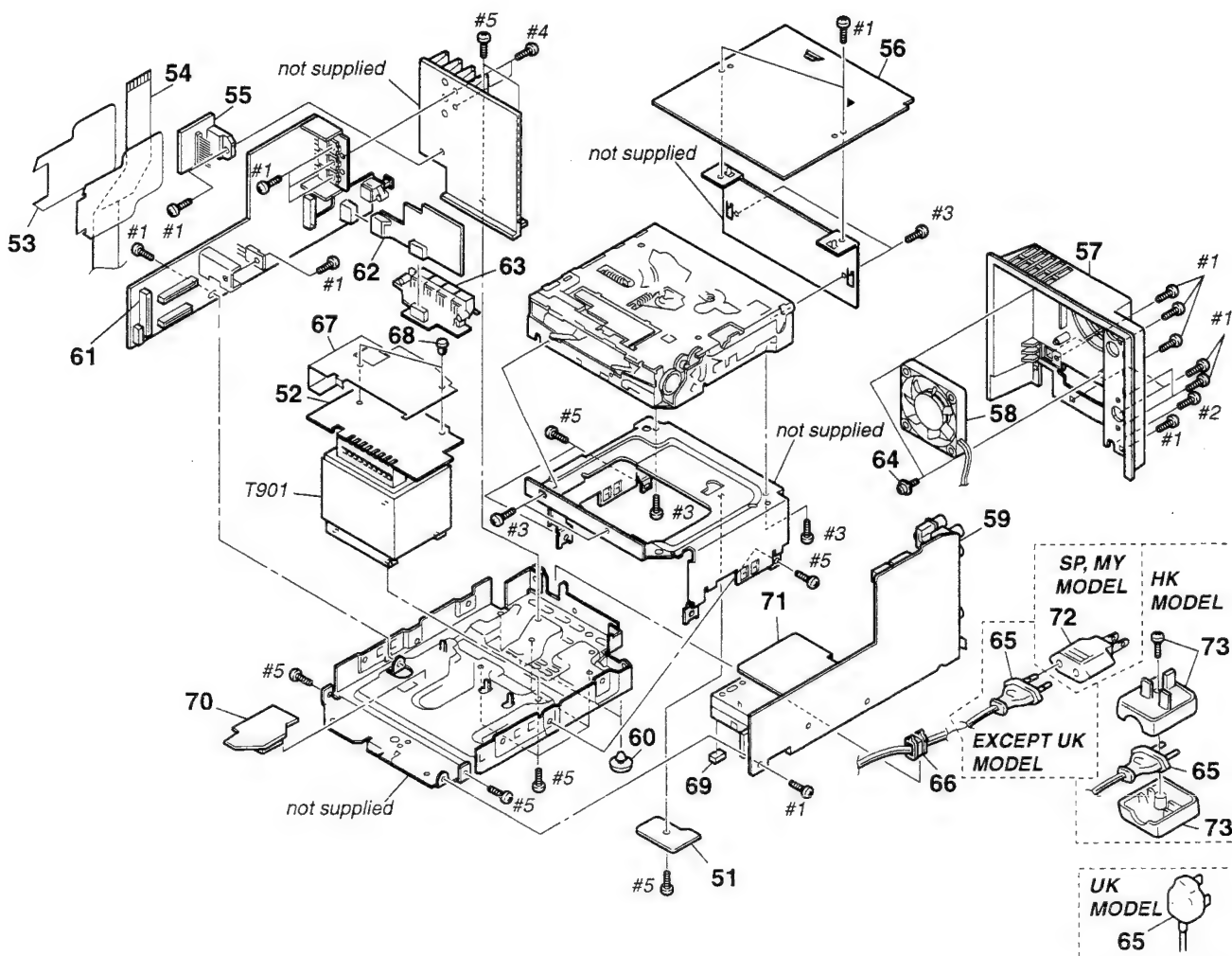
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.
- Abbreviation  
 SP : Singapore  
 MY : Malaysia  
 HK : Hong Kong  
 G : German  
 JE : Tourist

### 6-1. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
1	4-994-808-01	PANEL (ALUMINUM), FRONT (SP,MY,HK,JE)		* 7	1-667-385-11	SWITCH BOARD	
1	4-994-808-11	PANEL (ALUMINUM), FRONT (AEP,G,UK)		8	4-930-336-61	FOOT (FELT)	
2	4-942-636-21	EMBLEM (No.3.5), SONY		9	4-958-107-01	SCREW (BV/RING S TIGHT)	
3	4-994-813-01	FILTER (RM)		10	3-363-099-51	SCREW (CASE 3 TP2)	
* 4	1-667-387-11	HP BOARD		11	4-951-620-01	SCREW (2.6X8), +BVTP	
* 5	4-994-819-31	CASE		12	X-4948-993-1	PANEL (M) ASSY	
* 6	A-4403-540-A	PANEL BOARD, COMPLETE (SP,MY,HK,JE)		13	1-782-805-11	WIRE (FLAT TYPE) (5 CORE)	
* 6	A-4403-560-A	PANEL BOARD, COMPLETE (AEP,G)		14	1-782-781-11	WIRE (FLAT TYPE) (27 CORE)	
* 6	A-4403-727-A	PANEL BOARD, COMPLETE (UK)		* 15	1-667-388-11	EJECT BOARD	

## 6-2. CHASSIS SECTION

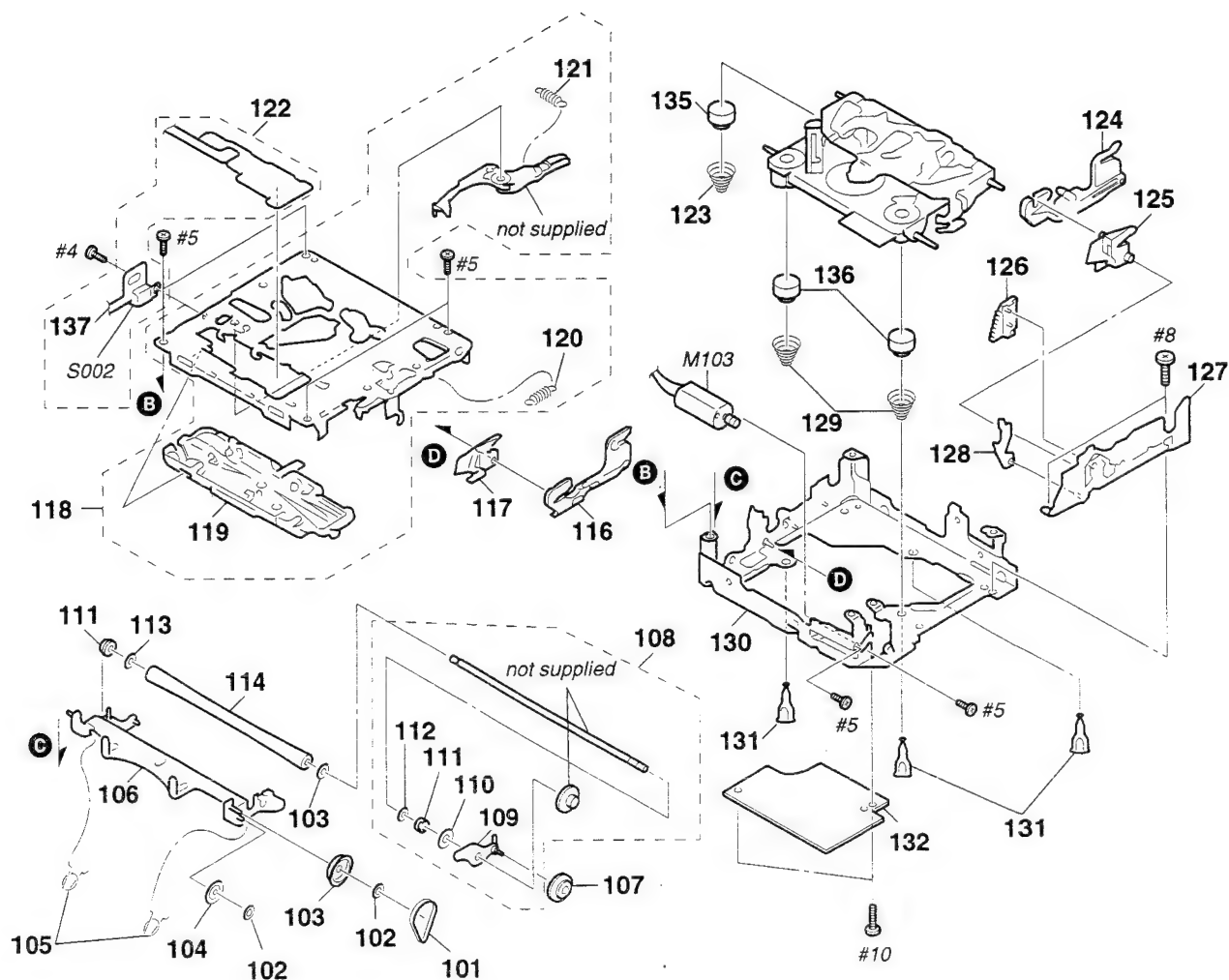


Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
51	1-668-138-11	POSISTOR BOARD		* 63	1-667-386-11	SP TM BOARD	
* 52	1-667-384-11	TRANS BOARD		64	4-985-672-01	SCREW (+PTPWHM2.6), FLOATING	
* 53	4-995-817-01	COVER (CABLE)		△ 65	1-776-060-11	CORD, POWER (EXCEPT UK)	
54	1-782-780-11	WIRE (FLAT TYPE) (21 CORE)		△ 65	1-776-061-21	CORD, POWER (UK)	
* 55	1-667-823-11	POWER IC BOARD		66	3-703-244-00	BUSHING (2104), CORD	
* 56	A-4403-527-A	PRE BOARD, COMPLETE		* 67	4-994-825-01	COVER (TR)	
* 57	4-994-816-01	PANEL, BACK		68	4-812-134-11	RIVET (DIA. 3.5), NYLON	
58	1-698-997-11	FAN, DC		69	4-889-836-01	CUSHION	
* 59	A-4403-536-A	FUNCTION BOARD, COMPLETE (SP,MY,HK,JE)		* 70	1-667-382-11	VOLSEL BOARD	
* 59	A-4403-553-A	FUNCTION BOARD, COMPLETE (AEP,G)		* 71	A-4403-559-A	RDS BOARD, COMPLETE (AEP,G,UK)	
* 59	A-4403-726-A	FUNCTION BOARD, COMPLETE (UK)		△ 72	1-569-008-11	ADAPTOR, CONVERSION 2P (SP,MY)	
60	4-965-822-01	FOOT		△ 73	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (HK)	
* 61	A-4403-537-A	POWER BOARD, COMPLETE (SP,MY,HK,JE)		△ T901	1-431-559-11	TRANSFORMER, POWER (AEP,G,UK)	
* 61	A-4403-555-A	POWER BOARD, COMPLETE (AEP,G,UK)		△ T901	1-431-560-11	TRANSFORMER, POWER (SP,MY,HK,JE)	
* 62	1-667-822-11	RELAY BOARD					

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

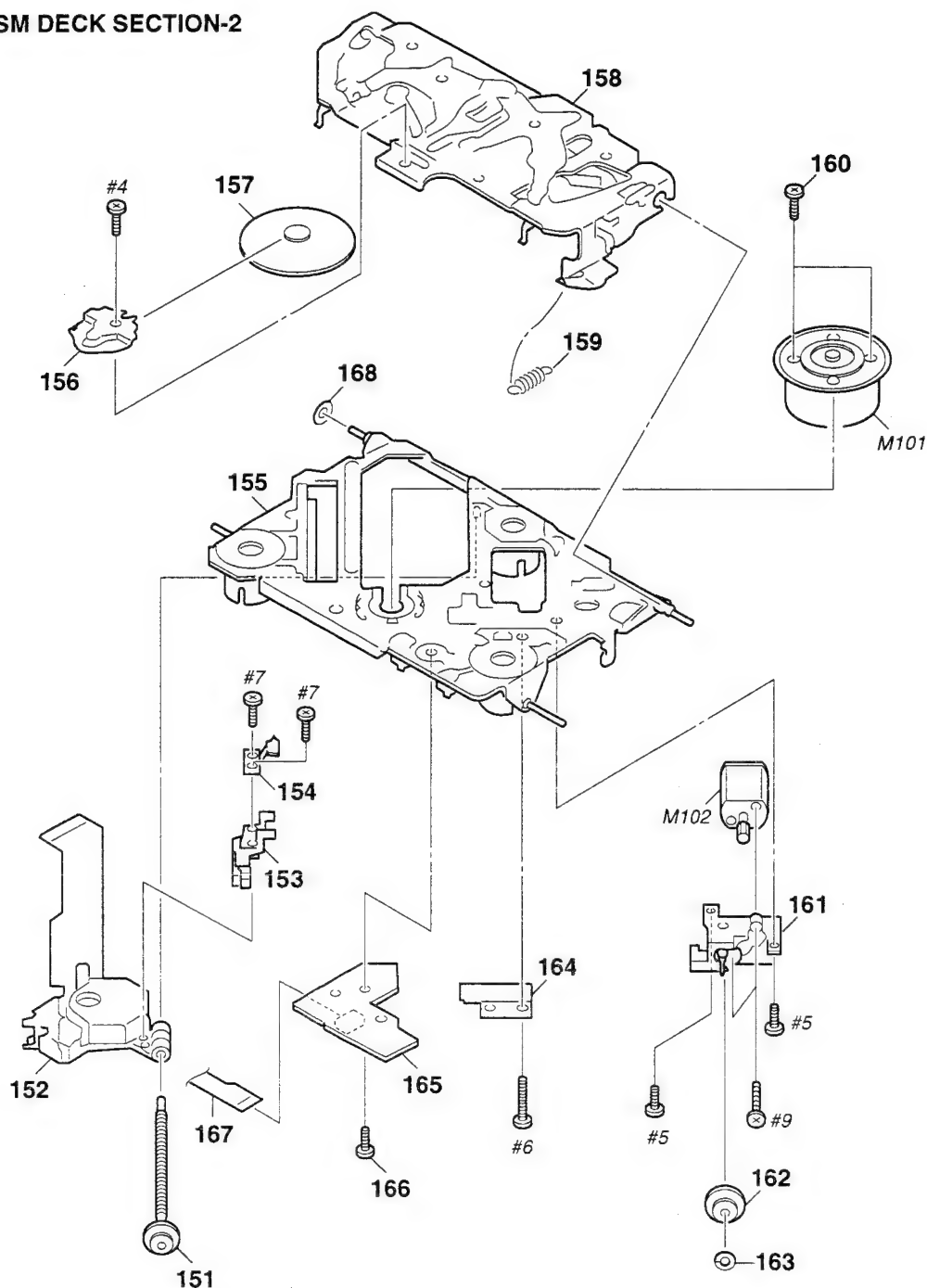


### 6-3. MECHANISM DECK SECTION-1 (CDM50)



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
101	3-387-776-01	BELT (L)		120	3-906-921-01	SPRING, TENSION	
102	3-578-242-11	WASHER		121	3-906-924-01	SPRING, TENSION	
103	3-384-894-01	GEAR (R1)		* 122	1-653-378-51	SENSOR BOARD	
104	3-384-895-01	GEAR (R2)		123	3-907-588-11	SPRING (FL2)	
105	3-384-900-01	SPRING (PRESS)		124	X-3366-102-1	SLIDER (R) ASSY	
* 106	X-3366-857-1	ARM ASSY, ROLLER		125	3-384-889-01	LEVER (R)	
107	3-384-896-01	GEAR (DOWN)		126	3-906-939-11	GEAR (RACK 2)	
108	A-3252-591-A	GEAR ASSY, ROLLER		* 127	X-3366-853-1	CHASSIS (R) ASSY	
109	X-3366-858-4	ARM ASSY, FRICTION		128	3-906-940-01	LEVER (ST2)	
110	3-384-899-01	SPRING (FRICTION)		129	3-384-916-01	SPRING (FL)	
111	3-384-892-01	BEARING (ROLLER)		* 130	X-3373-302-2	CHASSIS (M) ASSY	
112	3-386-150-01	RING (ROLLER), RETAINING		131	3-384-923-01	SHAFT (DAMPER)	
113	3-701-438-11	WASHER, 2.5		* 132	A-4699-821-A	BD BOARD, COMPLETE	
114	3-909-408-01	ROLLER (T2)		135	3-384-914-01	DAMPER	
116	3-384-888-01	SLIDER (L)		136	3-384-914-12	DAMPER	
117	3-384-887-01	LEVER (L)		137	1-658-806-11	SENSOR FLEXIBLE BOARD	
* 118	X-3371-324-3	CHASSIS (T2) ASSY		M103	A-3252-580-A	MOTOR (L) ASSY (LOADING)	
119	3-906-923-11	GUIDE (DISK 2)		S002	1-692-441-11	SWITCH, MICROPHONE (DISC DET)	

# 6-4. MECHANISM DECK SECTION-2 (CDM50)



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
151	A-3252-586-A	SHAFT (SL) ASSY		162	3-384-912-11	GEAR (K2)	
△ 152	8-848-283-11	OPTICAL PICK-UP KSS-313A		163	3-570-615-02	POLY-WASHER (DIA.1.2)	
153	3-384-922-01	GEAR (SL FEED)		164	3-384-913-11	SPRING (THRUST RETAINER)	
154	3-384-920-01	RETAINER (SL FEED)		* 165	1-653-379-51	MOTOR BOARD	
155	X-3370-190-1	CHASSIS (OPT) ASSY (OUTSERT)		166	3-918-103-11	SCREW	
* 156	3-384-915-11	BRACKET (CP)					
* 157	3-384-918-01	RETAINER (DISC)		167	1-653-376-11	MOTOR FLEXIBLE BOARD	
158	X-3372-948-1	ARM ASSY, CHUCKING		168	3-701-442-01	WASHER, POLYETHYLENE	
159	3-384-917-01	SPRING (CH)		M101	X-3367-484-2	MOTOR (SP) ASSY (SPINDLE)	
160	3-926-152-01	SCREW (+PM1.7X2.5)		M102	A-3252-585-A	MOTOR (SL) ASSY (SLED)	
161	X-3366-100-1	BASE (DRIVING) ASSY					

The components identified by mark △ or dotted line with mark △ are critical for safety.  
Replace only with part number specified.

# SECTION 7 ELECTRICAL PARTS LIST

BD

## NOTE:

When indicating parts by reference number, please include the board name.

The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

- Abbreviation  
SP : Singapore  
MY : Malaysia  
HK : Hong Kong  
G : German  
JE : Tourist

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:  
uF:  $\mu$ F

- RESISTORS  
All resistors are in ohms.  
METAL: metal-film resistor  
METAL OXIDE: Metal Oxide-film resistor  
F: nonflammable
- COILS  
uH:  $\mu$ H
- SEMICONDUCTORS  
In each case, u:  $\mu$ , for example:  
uA...,  $\mu$ A..., uPA...,  $\mu$ PA...,  
uPB...,  $\mu$ PB..., uPC...,  $\mu$ PC...,  
uPD...,  $\mu$ PD...

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
*	A-4699-821-A	BD BOARD, COMPLETE *****		C145	1-135-201-11	TANTALUM CHIP 10uF	20% 4V
	3-934-077-01	CUSHION (LIGHT INTERCEPTION)		C146	1-135-201-11	TANTALUM CHIP 10uF	20% 4V
		< CAPACITOR >		C147	1-163-275-11	CERAMIC CHIP 0.001uF	5% 50V
C101	1-126-607-11	ELECT CHIP 47uF	20% 4V	C148	1-163-275-11	CERAMIC CHIP 0.001uF	5% 50V
C102	1-163-275-11	CERAMIC CHIP 0.001uF	5% 50V	C149	1-164-346-11	CERAMIC CHIP 1uF	16V
C103	1-164-346-11	CERAMIC CHIP 1uF	16V				
C105	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V	C153	1-124-778-00	ELECT CHIP 22uF	20% 6.3V
C106	1-164-695-11	CERAMIC CHIP 0.0022uF	5% 50V	C154	1-163-235-11	CERAMIC CHIP 22PF	5% 50V
C107	1-164-695-11	CERAMIC CHIP 0.0022uF	5% 50V	C171	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V
C108	1-164-232-11	CERAMIC CHIP 0.01uF	50V	C172	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V
C109	1-164-232-11	CERAMIC CHIP 0.01uF	50V	C173	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V
C110	1-163-989-11	CERAMIC CHIP 0.033uF	10% 25V				
C111	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V	C174	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V
C112	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V	C175	1-124-778-00	ELECT CHIP 22uF	20% 6.3V
C113	1-164-695-11	CERAMIC CHIP 0.0022uF	5% 50V	C178	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C114	1-107-823-11	CERAMIC CHIP 0.47uF	10% 16V	C179	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V
C115	1-126-607-11	ELECT CHIP 47uF	20% 4V	C180	1-128-065-11	ELECT 68uF	20% 10V
C116	1-163-016-00	CERAMIC CHIP 0.0039uF	10% 50V				
C117	1-107-823-11	CERAMIC CHIP 0.47uF	10% 16V	C181	1-163-239-11	CERAMIC CHIP 33PF	5% 50V
C118	1-107-823-11	CERAMIC CHIP 0.47uF	10% 16V	C182	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C119	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V	C183	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C120	1-135-201-11	TANTALUM CHIP 10uF	20% 4V	C184	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C121	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V				
C122	1-164-232-11	CERAMIC CHIP 0.01uF	50V			< CONNECTOR >	
C123	1-164-336-11	CERAMIC CHIP 0.33uF	25V	CN101	1-565-728-11	CONNECTOR, FPC 17P	
C124	1-126-607-11	ELECT CHIP 47uF	20% 4V	CN102	1-770-298-31	HOUSING, CONNECTOR 28P	
C125	1-164-232-11	CERAMIC CHIP 0.01uF	50V	CN104	1-580-055-21	PIN, CONNECTOR 2P	
C126	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V	CN105	1-774-417-11	CONNECTOR, FPC 5P	
C127	1-164-695-11	CERAMIC CHIP 0.0022uF	5% 50V	CN106	1-770-345-21	CONNECTOR, FPC 7P	
C128	1-163-135-00	CERAMIC CHIP 560PF	5% 50V				
C129	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V	CN107	1-778-638-21	PIN, CONNECTOR (PC BOARD) 2P	
C130	1-164-336-11	CERAMIC CHIP 0.33uF	25V			< FERRITE BEAD >	
C131	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V	FB101	1-500-245-11	INDUCTOR 0uH	
C132	1-163-037-11	CERAMIC CHIP 0.022uF	10% 25V	FB102	1-216-295-91	CONDUCTOR, CHIP (2012)	
C133	1-163-145-00	CERAMIC CHIP 0.0015uF	5% 50V	FB103	1-500-245-11	INDUCTOR 0uH	
C134	1-164-346-11	CERAMIC CHIP 1uF	16V	FB104	1-216-295-91	CONDUCTOR, CHIP (2012)	
C135	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	FB105	1-414-386-11	INDUCTOR, FERRITE BEAD	
C136	1-164-005-11	CERAMIC CHIP 0.47uF	25V	FB106	1-414-386-11	INDUCTOR, FERRITE BEAD	
C137	1-164-232-11	CERAMIC CHIP 0.01uF	50V			< IC >	
C139	1-163-235-11	CERAMIC CHIP 22PF	5% 50V	IC101	8-752-069-56	IC CXA1782BQ	
C140	1-163-235-11	CERAMIC CHIP 22PF	5% 50V	IC102	8-759-291-06	IC BA6397FP	
C141	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V	IC103	8-752-372-94	IC CXD2507AQ	
C142	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V	IC104	8-759-185-29	IC PCM1710U-B	
				IC105	8-759-823-87	IC LB1638M	

<b>BD</b>	<b>EJECT</b>	<b>FUNCTION</b>
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Ref. No.	Part No.	Description	Remarks
< TRANSISTOR >			
Q1	8-729-032-35	PHOTO TRANSISTOR CPT-230S-C-TU	
Q2	8-729-032-35	PHOTO TRANSISTOR CPT-230S-C-TU	
Q4	8-729-032-35	PHOTO TRANSISTOR CPT-230S-C-TU	
Q101	8-729-010-08	TRANSISTOR MSB710-R	
Q102	8-729-424-08	TRANSISTOR UN2111	
< RESISTOR >			
R102	1-216-001-00	METAL CHIP 10	5% 1/10W
R103	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R104	1-216-097-91	METAL GLAZE 100K	5% 1/10W
R105	1-216-093-00	METAL CHIP 68K	5% 1/10W
R106	1-216-093-00	METAL CHIP 68K	5% 1/10W
R107	1-216-093-00	METAL CHIP 68K	5% 1/10W
R108	1-216-093-00	METAL CHIP 68K	5% 1/10W
R109	1-216-097-91	METAL GLAZE 100K	5% 1/10W
R112	1-216-083-00	METAL CHIP 27K	5% 1/10W
R113	1-216-083-00	METAL CHIP 27K	5% 1/10W
R114	1-216-101-00	METAL CHIP 150K	5% 1/10W
R115	1-216-101-00	METAL CHIP 150K	5% 1/10W
R116	1-216-061-00	METAL CHIP 3.3K	5% 1/10W
R117	1-216-069-00	METAL CHIP 6.8K	5% 1/10W
R118	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R119	1-216-089-91	METAL GLAZE 47K	5% 1/10W
R120	1-216-089-91	METAL GLAZE 47K	5% 1/10W
R121	1-216-114-00	METAL GLAZE 510K	5% 1/10W
R122	1-216-097-91	METAL GLAZE 100K	5% 1/10W
R123	1-216-097-91	METAL GLAZE 100K	5% 1/10W
R124	1-216-097-91	METAL GLAZE 100K	5% 1/10W
R125	1-216-069-00	METAL CHIP 6.8K	5% 1/10W
R126	1-216-061-00	METAL CHIP 3.3K	5% 1/10W
R127	1-216-097-91	METAL GLAZE 100K	5% 1/10W
R128	1-216-105-91	METAL GLAZE 220K	5% 1/10W
R129	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R130	1-216-079-00	METAL CHIP 18K	5% 1/10W
R131	1-216-079-00	METAL CHIP 18K	5% 1/10W
R132	1-216-061-00	METAL CHIP 3.3K	5% 1/10W
R133	1-216-061-00	METAL CHIP 3.3K	5% 1/10W
R134	1-216-065-00	METAL CHIP 4.7K	5% 1/10W
R135	1-216-065-00	METAL CHIP 4.7K	5% 1/10W
R136	1-216-073-00	METAL CHIP 10K	5% 1/10W
R137	1-216-065-00	METAL CHIP 4.7K	5% 1/10W
R138	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R139	1-216-033-00	METAL CHIP 220	5% 1/10W
R140	1-216-081-00	METAL CHIP 22K	5% 1/10W
R141	1-216-061-00	METAL CHIP 3.3K	5% 1/10W
R142	1-216-061-00	METAL CHIP 3.3K	5% 1/10W
R143	1-216-121-91	METAL GLAZE 1M	5% 1/10W
R144	1-216-073-00	METAL CHIP 10K	5% 1/10W
R145	1-216-097-91	METAL GLAZE 100K	5% 1/10W
R146	1-216-097-91	METAL GLAZE 100K	5% 1/10W
R147	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R148	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R149	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R150	1-216-037-00	METAL CHIP 330	5% 1/10W
R151	1-216-037-00	METAL CHIP 330	5% 1/10W
R152	1-216-037-00	METAL CHIP 330	5% 1/10W
R154	1-216-065-00	METAL CHIP 4.7K	5% 1/10W

Ref. No.	Part No.	Description	Remarks
R156	1-216-085-00	METAL CHIP 33K	5% 1/10W
R157	1-216-069-00	METAL CHIP 6.8K	5% 1/10W
R158	1-216-001-00	METAL CHIP 10	5% 1/10W
R171	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R172	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R173	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R174	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R175	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R176	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R177	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R183	1-216-105-91	METAL GLAZE 220K	5% 1/10W
R184	1-216-105-91	METAL GLAZE 220K	5% 1/10W
R185	1-216-105-91	METAL GLAZE 220K	5% 1/10W
R186	1-216-295-91	CONDUCTOR, CHIP (2012)	
R187	1-216-295-91	CONDUCTOR, CHIP (2012)	
R188	1-216-295-91	CONDUCTOR, CHIP (2012)	
R189	1-216-295-91	CONDUCTOR, CHIP (2012)	
< VARIABLE RESISTOR >			
RV101	1-223-587-11	RES, ADJ, CARBON 22K	
RV102	1-223-587-11	RES, ADJ, CARBON 22K	
RV103	1-223-587-11	RES, ADJ, CARBON 22K	
< SWITCH >			
S1	1-571-754-31	SWITCH, PUSH (1 KEY)	
< VIBRATOR >			
X101	1-767-430-11	VIBRATOR, CRYSTAL 16.9344MHz	
*****			
*	1-667-388-11	EJECT BOARD	*****
< CONNECTOR >			
CN753	1-580-918-11	HOUSING, CONNECTOR 5P	
< SWITCH >			
S755	1-762-875-21	SWITCH, KEYBOARD (▲OPEN/CLOSE)	
*****			
*	A-4403-553-A	FUNCTION BOARD, COMPLETE (AEP,G)	*****
	A-4403-536-A	FUNCTION BOARD, COMPLETE (SP,MY,HK,JE)	*****
*	A-4403-726-A	FUNCTION BOARD, COMPLETE (UK)	*****
< CAPACITOR >			
C401	1-162-282-31	CERAMIC 100PF	10% 50V (AEP,G,UK)
C402	1-126-791-11	ELECT 10uF	20% 35V
C403	1-162-282-31	CERAMIC 100PF	10% 50V (AEP,G,UK)
C404	1-162-282-31	CERAMIC 100PF	10% 50V (AEP,G,UK)
C405	1-162-282-31	CERAMIC 100PF	10% 50V (AEP,G,UK)
C406	1-126-791-11	ELECT 10uF	20% 35V

Ref. No.	Part No.	Description	Remarks			Ref. No.	Part No.	Description	Remarks		
C407	1-162-282-31	CERAMIC	100PF	10%	50V (AEP,G,UK)	< TRANSISTOR >					
C408	1-162-282-31	CERAMIC	100PF	10%	50V (AEP,G,UK)	Q401	8-729-422-57	TRANSISTOR UN4111			
C426	1-164-159-11	CERAMIC	0.1uF		50V	Q404	8-729-620-05	TRANSISTOR 2SC2603-EF			
C430	1-164-159-11	CERAMIC	0.1uF		50V	< RESISTOR >					
C431	1-164-159-11	CERAMIC	0.1uF		50V	R401	1-249-426-11	CARBON	5.6K	5%	1/4W
C432	1-126-059-11	ELECT	10uF	20%	50V	R402	1-249-427-11	CARBON	6.8K	5%	1/4W
C433	1-126-059-11	ELECT	10uF	20%	50V	R403	1-249-413-11	CARBON	470	5%	1/4W
C436	1-164-159-11	CERAMIC	0.1uF		50V	R404	1-249-441-11	CARBON	100K	5%	1/4W
C437	1-126-934-11	ELECT	220uF	20%	16V	R405	1-249-413-11	CARBON	470	5%	1/4W
C438	1-164-159-11	CERAMIC	0.1uF		50V	R407	1-249-417-11	CARBON	1K	5%	1/4W
C450	1-164-159-11	CERAMIC	0.1uF		50V	R408	1-249-441-11	CARBON	100K	5%	1/4W
C451	1-161-494-00	CERAMIC	0.022uF		25V	R409	1-249-409-11	CARBON	220	5%	1/4W
C493	1-164-159-11	CERAMIC	0.1uF		50V	R410	1-249-441-11	CARBON	100K	5%	1/4W
C501	1-162-282-31	CERAMIC	100PF	10%	50V (AEP,G,UK)	R411	1-249-409-11	CARBON	220	5%	1/4W
C502	1-126-791-11	ELECT	10uF	20%	35V	R412	1-249-441-11	CARBON	100K	5%	1/4W
C503	1-162-282-31	CERAMIC	100PF	10%	50V (AEP,G,UK)	R415	1-249-437-11	CARBON	47K	5%	1/4W
C504	1-162-282-31	CERAMIC	100PF	10%	50V (AEP,G,UK)	R416	1-249-437-11	CARBON	47K	5%	1/4W
C505	1-162-282-31	CERAMIC	100PF	10%	50V (AEP,G,UK)	R417	1-249-437-11	CARBON	47K	5%	1/4W
C506	1-126-791-11	ELECT	10uF	20%	35V	R418	1-249-433-11	CARBON	22K	5%	1/4W
C507	1-162-282-31	CERAMIC	100PF	10%	50V (AEP,G,UK)	R430	1-247-807-31	CARBON	100	5%	1/4W
C508	1-162-282-31	CERAMIC	100PF	10%	50V (AEP,G,UK)	R431	1-249-417-11	CARBON	1K	5%	1/4W
< CONNECTOR >						R432	1-249-393-11	CARBON	10	5%	1/4W
CN401	1-770-406-11	CONNECTOR, BOARD TO BOARD 10P				R433	1-249-429-11	CARBON	10K	5%	1/4W
CN402	1-779-968-11	SOCKET, CONNECTOR				R434	1-260-095-11	CARBON	470	5%	1/2W
* CN403	1-774-813-11	CONNECTOR, BOARD TO BOARD 7P(AEP,G,UK)				R435	1-249-433-11	CARBON	22K	5%	1/4W
* CN404	1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P				R436	1-249-433-11	CARBON	22K	5%	1/4W
CN407	1-770-408-11	CONNECTOR, BOARD TO BOARD 14P				R437	1-247-807-31	CARBON	100	5%	1/4W
CN410	1-778-310-11	PLUG, CONNECTOR 2P				R438	1-247-807-31	CARBON	100	5%	1/4W
< JACK >						R439	1-247-807-31	CARBON	100	5%	1/4W
CNJ401	1-770-501-11	JACK 10P (MD)				R440	1-247-807-31	CARBON	100	5%	1/4W
CNJ402	1-770-501-11	JACK 10P (TAPE)				R441	1-247-807-31	CARBON	100	5%	1/4W
< DIODE >						R461	1-247-843-11	CARBON	3.3K	5%	1/4W
D401	8-719-911-19	DIODE 1SS119				R462	1-249-429-11	CARBON	10K	5%	1/4W
D402	8-719-911-19	DIODE 1SS119				R495	1-247-843-11	CARBON	3.3K	5%	1/4W
D403	8-719-911-19	DIODE 1SS119				R501	1-249-426-11	CARBON	5.6K	5%	1/4W
D404	8-719-933-39	DIODE HZS6C1L				R502	1-249-427-11	CARBON	6.8K	5%	1/4W
D405	8-719-911-19	DIODE 1SS119				R503	1-249-413-11	CARBON	470	5%	1/4W
D406	8-719-911-19	DIODE 1SS119 (AEP,G,UK)				R504	1-249-441-11	CARBON	100K	5%	1/4W
D407	8-719-911-19	DIODE 1SS119 (AEP,G,UK)				R505	1-249-413-11	CARBON	470	5%	1/4W
D408	8-719-911-19	DIODE 1SS119 (AEP,G,UK)				R507	1-249-417-11	CARBON	1K	5%	1/4W
< IC >						R508	1-249-441-11	CARBON	100K	5%	1/4W
IC401	8-759-195-14	IC SC027MG051BCP				R509	1-249-409-11	CARBON	220	5%	1/4W
IC402	8-759-195-21	IC SC027MG066BF-T1				R510	1-249-441-11	CARBON	100K	5%	1/4W
IC403	8-759-195-21	IC SC027MG066BF-T1				R511	1-249-409-11	CARBON	220	5%	1/4W
IC501	8-759-195-14	IC SC027MG051BCP				R512	1-249-441-11	CARBON	100K	5%	1/4W
< JACK >						R561	1-247-843-11	CARBON	3.3K	5%	1/4W
J401	1-573-028-31	JACK, PIN 4P (VIDEO/PC(L-IN,L-OUT,R-IN,R-OUT))				R562	1-249-429-11	CARBON	10K	5%	1/4W
J402	1-779-940-11	CONNECTOR, COAXIAL (ANTENNA(AM,FM75 ))				< TUNER UNIT >					
						TB401	1-233-654-11	ENCAPSULATED COMPONENT (SP,MY,HK,JE)			
						TB401	1-234-028-11	ENCAPSULATED COMPONENT (UK)			
						TB401	1-693-377-11	TUNER (AEP,G)			
*****											

## HP

## MOTOR

## PANEL

Ref. No.	Part No.	Description	Remarks
*	1-667-387-11	HP BOARD *****	
		< CAPACITOR >	
C491	1-162-294-31	CERAMIC 0.001uF 10%	50V
C591	1-162-294-31	CERAMIC 0.001uF 10%	50V
		< JACK >	
J660	1-764-106-21	JACK (PHONES)	
*****			
*	1-653-379-51	MOTOR BOARD *****	
		< JACK >	
CNJ303	1-770-348-21	CONNECTOR, FPC 7P	
		< SWITCH >	
S301	1-571-754-31	SWITCH, PUSH (1 KEY)	
*****			
*	A-4403-540-A	PANEL BOARD, COMPLETE (SP,MY,HK,JE) *****	
*	A-4403-560-A	PANEL BOARD, COMPLETE (AEP,G) *****	
*	A-4403-727-A	PANEL BOARD, COMPLETE (UK) *****	
*	4-932-810-11	CUSHION (FL)	
*	4-994-815-01	HOLDER (FL)	
		< CAPACITOR >	
C701	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C702	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C703	1-126-157-11	ELECT 10uF 20%	16V
C704	1-124-584-00	ELECT 100uF 20%	10V
C705	1-104-905-11	CAPACITOR 0.22F	5.5V
C706	1-126-157-11	ELECT 10uF 20%	16V
C707	1-164-489-11	CERAMIC CHIP 0.22uF 10%	16V
C708	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C709	1-163-275-11	CERAMIC CHIP 0.001uF 5%	50V
C710	1-101-004-00	CERAMIC 0.01uF	50V
C711	1-102-958-00	CERAMIC 20PF 5%	50V
C712	1-102-958-00	CERAMIC 20PF 5%	50V
C713	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C715	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C716	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C717	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C718	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C719	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C720	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C721	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C722	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C723	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C724	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C725	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C726	1-163-251-11	CERAMIC CHIP 100PF 5%	50V

Ref. No.	Part No.	Description	Remarks
C727	1-163-251-11	CERAMIC CHIP 100PF	5%
C728	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C729	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C730	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C731	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C751	1-126-154-11	ELECT 47uF	20%
C752	1-165-319-11	CERAMIC CHIP 0.1uF	50V
		< CONNECTOR >	
* CN701	1-568-842-11	SOCKET, CONNECTOR 27P	
CN702	1-779-970-11	PLUG, CONNECTOR	
CN703	1-779-938-11	CONNECTOR, BOARD TO BOARD 8P	
CN752	1-580-918-11	HOUSING, CONNECTOR 5P	
		< DIODE >	
D701	8-719-016-74	DIODE 1SS352	
D702	8-719-016-74	DIODE 1SS352	
D703	8-719-210-33	DIODE EC10DS2	
D704	8-719-210-33	DIODE EC10DS2	
		< FILTER >	
FL701	1-517-701-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC701	8-759-481-03	IC uPD780206GF-023-3BA	
IC751	8-759-459-84	IC NJL56H400 (REMOTE SENSOR)	
IC850	8-759-165-80	IC PST600C-T	
		< COIL >	
L701	1-412-344-41	INDUCTOR 22uH	
		< TRANSISTOR >	
Q701	8-729-424-59	TRANSISTOR UN2212	
Q704	8-729-421-22	TRANSISTOR UN2211	
		< RESISTOR >	
R701	1-216-073-00	METAL CHIP 10K 5%	1/10W
R702	1-216-073-00	METAL CHIP 10K 5%	1/10W
R704	1-216-073-00	METAL CHIP 10K 5%	1/10W
R706	1-216-025-91	METAL GLAZE 100 5%	1/10W
R707	1-216-029-00	METAL CHIP 150 5%	1/10W
R708	1-216-089-91	METAL GLAZE 47K 5%	1/10W
R709	1-216-089-91	METAL GLAZE 47K 5%	1/10W
R710	1-216-025-91	METAL GLAZE 100 5%	1/10W
R711	1-216-025-91	METAL GLAZE 100 5%	1/10W
R712	1-216-025-91	METAL GLAZE 100 5%	1/10W
R713	1-216-025-91	METAL GLAZE 100 5%	1/10W
R714	1-216-025-91	METAL GLAZE 100 5%	1/10W
R715	1-216-025-91	METAL GLAZE 100 5%	1/10W
R716	1-216-025-91	METAL GLAZE 100 5%	1/10W
R717	1-216-025-91	METAL GLAZE 100 5%	1/10W
R718	1-216-025-91	METAL GLAZE 100 5%	1/10W
R719	1-216-025-91	METAL GLAZE 100 5%	1/10W
R720	1-216-025-91	METAL GLAZE 100 5%	1/10W
R721	1-216-017-91	METAL GLAZE 47 5%	1/10W
R722	1-216-017-91	METAL GLAZE 47 5%	1/10W

PANEL	POSISTOR	POWER
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Ref. No.	Part No.	Description	Remarks
R723	1-216-025-91	METAL GLAZE 100	5% 1/10W
R724	1-216-017-91	METAL GLAZE 47	5% 1/10W
R725	1-216-017-91	METAL GLAZE 47	5% 1/10W
R726	1-216-025-91	METAL GLAZE 100	5% 1/10W
R727	1-216-085-00	METAL CHIP 33K	5% 1/10W
R728	1-216-085-00	METAL CHIP 33K	5% 1/10W
R729	1-216-025-91	METAL GLAZE 100	5% 1/10W
R730	1-216-025-91	METAL GLAZE 100	5% 1/10W
R731	1-216-025-91	METAL GLAZE 100	5% 1/10W
R732	1-216-025-91	METAL GLAZE 100	5% 1/10W
R733	1-216-025-91	METAL GLAZE 100	5% 1/10W
R734	1-216-073-00	METAL CHIP 10K	5% 1/10W
R735	1-216-065-00	METAL CHIP 4.7K	5% 1/10W
R736	1-216-073-00	METAL CHIP 10K	5% 1/10W
R737	1-216-025-91	METAL GLAZE 100	5% 1/10W
R738	1-216-025-91	METAL GLAZE 100	5% 1/10W
R739	1-216-025-91	METAL GLAZE 100	5% 1/10W
R740	1-216-075-00	METAL CHIP 12K	5% 1/10W (UK)
R740	1-216-077-00	METAL CHIP 15K	5% 1/10W (SP,MY,HK,JE)
R740	1-216-081-00	METAL CHIP 22K	5% 1/10W (AEP,G)
R741	1-216-065-00	METAL CHIP 4.7K	5% 1/10W (SP,MY,HK,JE)
R741	1-216-085-00	METAL CHIP 33K	5% 1/10W (AEP,G,UK)
R742	1-216-109-00	METAL CHIP 330K	5% 1/10W
R743	1-216-041-00	METAL CHIP 470	5% 1/10W
R744	1-216-041-00	METAL CHIP 470	5% 1/10W
R745	1-216-025-91	METAL GLAZE 100	5% 1/10W
R746	1-216-025-91	METAL GLAZE 100	5% 1/10W
R755	1-216-065-00	METAL CHIP 4.7K	5% 1/10W
R756	1-216-097-91	METAL GLAZE 100K	5% 1/10W
R757	1-216-089-91	METAL GLAZE 47K	5% 1/10W
R758	1-216-089-91	METAL GLAZE 47K	5% 1/10W
R759	1-216-089-91	METAL GLAZE 47K	5% 1/10W
R760	1-216-089-91	METAL GLAZE 47K	5% 1/10W
R771	1-216-025-91	METAL GLAZE 100	5% 1/10W (AEP,G)
R772	1-216-025-91	METAL GLAZE 100	5% 1/10W (SP,MY,HK,JE)
R773	1-216-025-91	METAL GLAZE 100	5% 1/10W (UK)
< SWITCH >			
S761	1-762-875-21	SWITCH, KEYBOARD (POWER)	
< VIBRATOR >			
X701	1-579-233-11	VIBRATOR, CERAMIC 5MHz	
X702	1-567-098-41	VIBRATOR, CRYSTAL 32KHz	

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Ref. No.	Part No.	Description	Remarks
*	1-668-138-11	POSISTOR BOARD	*****
< CAPACITOR >			
C915	1-164-159-11	CERAMIC 0.1uF	50V
C916	1-164-159-11	CERAMIC 0.1uF	50V
< CONNECTOR >			
* CN911	1-564-521-11	PLUG, CONNECTOR	
< THERMISTOR >			
THP901	1-801-671-11	THERMISTOR, POSITIVE	
THP902	1-801-671-11	THERMISTOR, POSITIVE	
THP903	1-801-671-11	THERMISTOR, POSITIVE	
THP904	1-801-671-11	THERMISTOR, POSITIVE	
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*	A-4403-537-A	POWER BOARD, COMPLETE (SP,MY,HK,JE)	*****
*	A-4403-555-A	POWER BOARD, COMPLETE (AEP,G,UK)	*****
< CAPACITOR >			
C801	1-126-043-11	ELECT 0.47uF	20% 50V
C803	1-126-868-11	ELECT 47uF	20% 50V
C805	1-164-159-11	CERAMIC 0.1uF	50V (AEP,G,UK)
C810	1-126-933-11	ELECT 100uF	20% 16V
C811	1-126-967-11	ELECT 47uF	20% 50V
C851	1-126-043-11	ELECT 0.47uF	20% 50V
C853	1-126-868-11	ELECT 47uF	20% 50V
C855	1-164-159-11	CERAMIC 0.1uF	50V (AEP,G,UK)
C893	1-126-868-11	ELECT 47uF	20% 50V
C894	1-126-868-11	ELECT 47uF	20% 50V
C901	1-126-029-11	ELECT 3300uF	20% 25V
C902	1-126-029-11	ELECT 3300uF	20% 25V
C903	1-126-943-11	ELECT 2200uF	20% 25V
C905	1-126-376-11	ELECT 470uF	20% 25V
C906	1-126-233-11	ELECT 22uF	20% 50V
C908	1-136-165-00	FILM 0.1uF	5% 50V
C909	1-136-165-00	FILM 0.1uF	5% 50V
C911	1-126-868-11	ELECT 47uF	20% 50V
C912	1-164-159-11	CERAMIC 0.1uF	50V
C914	1-162-306-11	CERAMIC 0.01uF	20% 16V
C931	1-126-096-11	ELECT 10uF	20% 35V
C932	1-126-096-11	ELECT 10uF	20% 35V
C933	1-126-096-11	ELECT 10uF	20% 35V
C934	1-126-096-11	ELECT 10uF	20% 35V
C935	1-126-096-11	ELECT 10uF	20% 35V
C936	1-126-096-11	ELECT 10uF	20% 35V
C937	1-164-159-11	CERAMIC 0.1uF	50V
C941	1-126-868-11	ELECT 47uF	20% 50V
C942	1-164-159-11	CERAMIC 0.1uF	50V
C943	1-126-052-11	ELECT 100uF	20% 35V
C951	1-164-159-11	CERAMIC 0.1uF	50V
C952	1-164-159-11	CERAMIC 0.1uF	50V
C960	1-126-025-11	ELECT 330uF	20% 16V
C961	1-162-306-11	CERAMIC 0.01uF	20% 16V

## POWER

## POWER IC

Ref. No.	Part No.	Description	Remarks
C962	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C963	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C965	1-126-233-11	ELECT 22uF 20% 50V	
C966	1-164-159-11	CERAMIC 0.1uF 50V	
C967	1-126-923-11	ELECT 220uF 20% 10V	

## &lt; CONNECTOR &gt;

* CN802	1-569-493-11	SOCKET, CONNECTOR 7P	
* CN806	1-562-334-00	SOCKET, CONNECTOR 10P	
* CN908	1-506-469-11	PIN, CONNECTOR 4P	
CN912	1-568-838-11	SOCKET, CONNECTOR 21P	
* CN913	1-770-656-11	CONNECTOR, FFC/FPC 28P	

* CN916	1-568-842-11	SOCKET, CONNECTOR 27P	
* CN917	1-568-951-11	PIN, CONNECTOR 2P	

## &lt; DIODE &gt;

D801	8-719-911-19	DIODE 1SS119	
D802	8-719-911-19	DIODE 1SS119	
D803	8-719-911-19	DIODE 1SS119	
D901	8-719-025-03	DIODE RBA-402-SL	
D902	8-719-200-02	DIODE 10E2	

D903	8-719-200-02	DIODE 10E2	
D904	8-719-200-82	DIODE 11ES2	
D905	8-719-200-82	DIODE 11ES2	
D906	8-719-200-82	DIODE 11ES2	
D907	8-719-200-82	DIODE 11ES2	

D910	8-719-001-79	DIODE UZL-12H1-TP	
D934	8-719-200-02	DIODE 10E2	
D935	8-719-200-02	DIODE 10E2	
D936	8-719-200-02	DIODE 10E2	
D938	8-719-911-19	DIODE 1SS119	

D941	8-719-933-39	DIODE HZS6C1L	
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## &lt; TERMINAL &gt;

EPT901	1-537-771-21	TERMINAL BOARD, GROUND	
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## &lt; IC &gt;

IC802	8-759-165-80	IC PST600C-T	
IC901	8-749-923-04	IC TOTX178 (CD OPTICAL DIGITAL OUT)	
IC931	8-759-231-53	IC TA7805S	
IC932	8-759-604-86	IC M5F7807L	
IC933	8-759-231-53	IC TA7805S	

IC941	8-759-633-42	IC M5293L	
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## &lt; COIL &gt;

L901	1-408-413-00	INDUCTOR 22uH	
L902	1-410-322-11	INDUCTOR 3.3uH	

## &lt; TRANSISTOR &gt;

Q801	8-729-900-80	TRANSISTOR DTC114ES	
Q802	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q803	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q804	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q805	8-729-422-57	TRANSISTOR UN4111	

Q910	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q911	8-729-021-82	TRANSISTOR 2SD2396K	
Q931	8-729-140-97	TRANSISTOR 2SB734-34	

Ref. No.	Part No.	Description	Remarks
< RESISTOR >			
R801	1-249-417-11	CARBON 1K 5% 1/4W F	
R802	1-247-870-11	CARBON 43K 5% 1/4W	
R803	1-249-417-11	CARBON 1K 5% 1/4W F	
R807	1-260-091-11	CARBON 220 5% 1/2W	
R809	1-249-437-11	CARBON 47K 5% 1/4W	

R810	1-249-441-11	CARBON 100K 5% 1/4W	
R811	1-249-441-11	CARBON 100K 5% 1/4W	
R813	1-249-438-11	CARBON 56K 5% 1/4W	
△R814	1-219-122-91	FUSIBLE 0.33 5% 1/4W F	
R841	1-249-441-11	CARBON 100K 5% 1/4W	

R851	1-249-417-11	CARBON 1K 5% 1/4W F	
R852	1-247-870-11	CARBON 43K 5% 1/4W	
R853	1-249-417-11	CARBON 1K 5% 1/4W F	
R857	1-260-091-11	CARBON 220 5% 1/2W	
R859	1-249-438-11	CARBON 56K 5% 1/4W	

△R901	1-208-737-51	FUSIBLE 2.2 5% 1/4W F	
△R912	1-212-958-00	FUSIBLE 10 5% 1/2W F	
△R915	1-219-122-91	FUSIBLE 0.33 5% 1/4W F	
△R916	1-219-122-91	FUSIBLE 0.33 5% 1/4W F	
R931	1-249-421-11	CARBON 2.2K 5% 1/4W F	

R932	1-249-409-11	CARBON 220 5% 1/4W F	
R944	1-249-437-11	CARBON 47K 5% 1/4W	
R945	1-247-807-31	CARBON 100 5% 1/4W	
R946	1-247-807-31	CARBON 100 5% 1/4W	
△R947	1-219-122-91	FUSIBLE 0.33 5% 1/4W F	

## &lt; RELAY &gt;

RY801	1-755-126-11	RELAY	
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## &lt; THERMISTOR(POSITIVE) &gt;

THP801	1-801-829-11	THERMISTOR, POSITIVE	
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*	1-667-823-11	POWER IC BOARD	
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## &lt; CAPACITOR &gt;

C807	1-162-219-31	CERAMIC 68PF 5% 50V	
C831	1-164-159-11	CERAMIC 0.1uF 50V	
C857	1-162-219-31	CERAMIC 68PF 5% 50V	
C881	1-164-159-11	CERAMIC 0.1uF 50V	

## &lt; CONNECTOR &gt;

* CN805	1-506-608-11	PIN, CONNECTOR 10P	
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## &lt; IC &gt;

IC801	8-759-333-24	IC LM1876TF	
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## &lt; RESISTOR &gt;

R804	1-249-437-11	CARBON 47K 5% 1/4W	
R831	1-249-389-11	CARBON 4.7 5% 1/4W F	
R854	1-249-437-11	CARBON 47K 5% 1/4W	
R881	1-249-389-11	CARBON 4.7 5% 1/4W F	

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The components identified by mark △ or dotted line with mark △ are critical for safety.  
Replace only with part number specified.



Ref. No.	Part No.	Description	Remarks				Ref. No.	Part No.	Description	Remarks			
*	A-4403-527-A	PRE BOARD, COMPLETE *****							< CONNECTOR >				
		< CAPACITOR >					CN420	1-770-383-11	CONNECTOR, BOARD TO BOARD 14P				
C409	1-126-233-11	ELECT	22uF	20%	50V		* CN421	1-568-864-11	SOCKET, CONNECTOR 21P				
C410	1-126-233-11	ELECT	22uF	20%	50V		CN422	1-770-381-11	CONNECTOR, BOARD TO BOARD 10P				
C411	1-162-207-31	CERAMIC	22PF	5%	50V		CN423	1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P				
C412	1-136-177-00	FILM	1uF	5%	50V			< DIODE >					
C413	1-136-177-00	FILM	1uF	5%	50V		D921	8-719-001-21	DIODE UZL-9H1				
							D922	8-719-001-21	DIODE UZL-9H1				
C414	1-126-961-11	ELECT	2.2uF	20%	50V			< IC >					
C415	1-137-364-11	FILM	0.001uF	5%	50V		IC404	8-759-711-35	IC NJM4580D				
C416	1-136-165-00	FILM	0.1uF	5%	50V		IC410	8-759-275-23	IC BU2092				
C417	1-126-233-11	ELECT	22uF	20%	50V		IC422	8-759-195-20	IC SC027MG066BCP				
C421	1-126-233-11	ELECT	22uF	20%	50V		IC423	8-759-195-16	IC SC027MG052BCP				
						IC424	8-759-070-78	IC TC9211P					
C422	1-164-159-11	CERAMIC	0.1uF		50V		IC430	8-759-711-35	IC NJM4580D				
C423	1-164-159-11	CERAMIC	0.1uF		50V		IC530	8-759-711-35	IC NJM4580D				
C439	1-126-514-11	ELECT	22uF	20%	16V			< TRANSISTOR >					
C440	1-136-162-00	FILM	0.056uF	5%	50V		Q420	8-729-422-57	TRANSISTOR UN4111				
C449	1-162-302-11	CERAMIC	0.0022uF	30%	16V		Q421	8-729-422-57	TRANSISTOR UN4111				
						Q422	8-729-900-80	TRANSISTOR DTC114ES					
C452	1-162-306-11	CERAMIC	0.01uF	20%	16V		Q424	8-729-141-30	TRANSISTOR 2SC3623A-LK				
C471	1-164-159-11	CERAMIC	0.1uF		50V		Q524	8-729-141-30	TRANSISTOR 2SC3623A-LK				
C472	1-126-795-11	ELECT	10uF	20%	50V								
C473	1-126-059-11	ELECT	10uF	20%	50V		Q921	8-729-140-96	TRANSISTOR 2SD774-34				
C474	1-126-059-11	ELECT	10uF	20%	50V		Q924	8-729-140-97	TRANSISTOR 2SB734-34				
								< RESISTOR >					
C475	1-126-059-11	ELECT	10uF	20%	50V		R421	1-249-437-11	CARBON 47K 5% 1/4W				
C476	1-164-159-11	CERAMIC	0.1uF		50V		R422	1-249-441-11	CARBON 100K 5% 1/4W				
C477	1-126-059-11	ELECT	10uF	20%	50V		R423	1-249-417-11	CARBON 1K 5% 1/4W F				
C478	1-164-159-11	CERAMIC	0.1uF		50V		R424	1-249-429-11	CARBON 10K 5% 1/4W				
C479	1-162-294-31	CERAMIC	0.001uF	10%	50V		R425	1-247-887-00	CARBON 220K 5% 1/4W				
C481	1-162-290-31	CERAMIC	470PF	10%	50V		R426	1-249-442-11	CARBON 510 5% 1/4W				
C482	1-164-159-11	CERAMIC	0.1uF		50V		R427	1-247-858-11	CARBON 13K 5% 1/4W				
C483	1-164-159-11	CERAMIC	0.1uF		50V		R428	1-249-421-11	CARBON 2.2K 5% 1/4W F				
C509	1-126-233-11	ELECT	22uF	20%	50V		R429	1-249-429-11	CARBON 10K 5% 1/4W				
C510	1-126-233-11	ELECT	22uF	20%	50V		R442	1-249-428-11	CARBON 8.2K 5% 1/4W F				
C511	1-162-207-31	CERAMIC	22PF	5%	50V		R443	1-247-887-00	CARBON 220K 5% 1/4W				
C512	1-136-177-00	FILM	1uF	5%	50V		R444	1-249-437-11	CARBON 47K 5% 1/4W				
C513	1-136-177-00	FILM	1uF	5%	50V		R445	1-249-431-11	CARBON 15K 5% 1/4W				
C514	1-126-961-11	ELECT	2.2uF	20%	50V		R446	1-249-435-11	CARBON 33K 5% 1/4W				
C515	1-137-364-11	FILM	0.001uF	5%	50V		R448	1-249-435-11	CARBON 33K 5% 1/4W				
C516	1-136-165-00	FILM	0.1uF	5%	50V		R449	1-249-421-11	CARBON 2.2K 5% 1/4W F				
C517	1-126-233-11	ELECT	22uF	20%	50V		R450	1-247-807-31	CARBON 100 5% 1/4W				
C521	1-126-233-11	ELECT	22uF	20%	50V		R451	1-249-426-11	CARBON 5.6K 5% 1/4W				
C522	1-162-306-11	CERAMIC	0.01uF	20%	16V		R460	1-247-887-00	CARBON 220K 5% 1/4W				
C523	1-162-306-11	CERAMIC	0.01uF	20%	16V		R470	1-247-807-31	CARBON 100 5% 1/4W				
C539	1-126-514-11	ELECT	22uF	20%	16V		R472	1-247-807-31	CARBON 100 5% 1/4W				
C540	1-136-162-00	FILM	0.056uF	5%	50V		R473	1-247-807-31	CARBON 100 5% 1/4W				
C549	1-162-302-11	CERAMIC	0.0022uF	30%	16V		R474	1-247-807-31	CARBON 100 5% 1/4W				
C920	1-164-159-11	CERAMIC	0.1uF		50V		R475	1-247-807-31	CARBON 100 5% 1/4W				
C921	1-164-159-11	CERAMIC	0.1uF		50V		R476	1-247-807-31	CARBON 100 5% 1/4W				
C922	1-126-052-11	ELECT	100uF	20%	16V		R478	1-249-417-11	CARBON 1K 5% 1/4W F				
C923	1-126-052-11	ELECT	100uF	20%	16V		R479	1-249-425-11	CARBON 4.7K 5% 1/4W F				
C924	1-126-023-11	ELECT	100uF	20%	25V		R481	1-247-807-31	CARBON 100 5% 1/4W				
C925	1-126-023-11	ELECT	100uF	20%	25V		R482	1-247-807-31	CARBON 100 5% 1/4W				
C926	1-126-052-11	ELECT	100uF	20%	16V		R483	1-247-807-31	CARBON 100 5% 1/4W				

PRE	RDS	RELAY
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Ref. No.	Part No.	Description			Remarks
R484	1-247-807-31	CARBON	100	5%	1/4W
R485	1-247-807-31	CARBON	100	5%	1/4W
R486	1-249-437-11	CARBON	47K	5%	1/4W
R487	1-249-437-11	CARBON	47K	5%	1/4W
R488	1-249-432-11	CARBON	18K	5%	1/4W
R489	1-249-437-11	CARBON	47K	5%	1/4W
R490	1-249-437-11	CARBON	47K	5%	1/4W
R491	1-249-413-11	CARBON	470	5%	1/4W F
R493	1-249-413-11	CARBON	470	5%	1/4W F
R494	1-249-413-11	CARBON	470	5%	1/4W F
R521	1-249-437-11	CARBON	47K	5%	1/4W
R522	1-249-441-11	CARBON	100K	5%	1/4W
R523	1-249-417-11	CARBON	1K	5%	1/4W F
R524	1-249-429-11	CARBON	10K	5%	1/4W
R525	1-247-887-00	CARBON	220K	5%	1/4W
R526	1-249-442-11	CARBON	510	5%	1/4W
R527	1-247-858-11	CARBON	13K	5%	1/4W
R528	1-249-421-11	CARBON	2.2K	5%	1/4W F
R529	1-249-429-11	CARBON	10K	5%	1/4W
R542	1-249-428-11	CARBON	8.2K	5%	1/4W F
R543	1-247-887-00	CARBON	220K	5%	1/4W
R544	1-249-437-11	CARBON	47K	5%	1/4W
R545	1-249-431-11	CARBON	15K	5%	1/4W
R546	1-249-435-11	CARBON	33K	5%	1/4W
R548	1-249-435-11	CARBON	33K	5%	1/4W
R549	1-249-421-11	CARBON	2.2K	5%	1/4W F
R551	1-249-426-11	CARBON	5.6K	5%	1/4W
R560	1-247-887-00	CARBON	220K	5%	1/4W
R921	1-247-843-11	CARBON	3.3K	5%	1/4W
R925	1-247-843-11	CARBON	3.3K	5%	1/4W

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\* A-4403-559-A RDS BOARD, COMPLETE (AEP,G,UK)

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< CAPACITOR >

C601	1-162-291-31	CERAMIC	560PF	10%	50V
C602	1-162-306-11	CERAMIC	0.01uF	20%	16V
C603	1-162-288-31	CERAMIC	330PF	10%	50V
C604	1-126-961-11	ELECT	2.2uF	20%	50V
C605	1-126-964-11	ELECT	10uF	20%	50V
C606	1-162-291-31	CERAMIC	560PF	10%	50V
C607	1-126-964-11	ELECT	10uF	20%	50V
C608	1-164-159-11	CERAMIC	0.1uF		50V
C609	1-126-967-11	ELECT	47uF	20%	16V
C610	1-102-518-11	CERAMIC	33PF	5%	50V
C611	1-102-518-11	CERAMIC	33PF	5%	50V
C612	1-162-306-11	CERAMIC	0.01uF	20%	16V

< CONNECTOR >

CN601 1-779-939-11 CONNECTOR, BOARD TO BOARD 7P

< DIODE >

D601 8-719-911-19 DIODE 1SS119

< IC >

IC601 8-759-450-86 IC BU1922  
IC602 8-759-634-51 IC M5218AP

Ref. No.	Part No.	Description			Remarks
		< COIL >			
L601	1-410-977-11	INDUCTOR	100uH		
		< RESISTOR >			
R601	1-249-401-11	CARBON	47	5%	1/4W F
R602	1-249-441-11	CARBON	100K	5%	1/4W
R603	1-249-441-11	CARBON	100K	5%	1/4W
R604	1-249-426-11	CARBON	5.6K	5%	1/4W
R605	1-249-429-11	CARBON	10K	5%	1/4W
R606	1-249-405-11	CARBON	100	5%	1/4W F
R607	1-249-417-11	CARBON	1K	5%	1/4W F
		< VIBRATOR >			
X601	1-579-900-21	VIBRATOR, CRYSTAL 4.332MHZ			
		*****			
*	1-667-822-11	RELAY BOARD			
		*****			
		< CAPACITOR >			
C820	1-126-794-11	ELECT	4.7uF	20%	50V
C821	1-126-177-11	ELECT	100uF	20%	10V
C822	1-164-159-11	CERAMIC	0.1uF		50V
C823	1-164-159-11	CERAMIC	0.1uF		50V
C824	1-164-159-11	CERAMIC	0.1uF		50V
		< CONNECTOR >			
* CN812	1-569-502-11	PIN, CONNECTOR 7P			
* CN813	1-691-174-11	CONNECTOR (BOARD TO BOARD) 4P			
CN814	1-564-506-11	PLUG, CONNECTOR 3P			
		< DIODE >			
D820	8-719-933-50	DIODE	HZS7C2L		
D821	8-719-933-39	DIODE	HZS6C1L		
D822	8-719-911-19	DIODE	1SS119		
D823	8-719-911-19	DIODE	1SS119		
		< TRANSISTOR >			
Q820	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q821	8-729-620-05	TRANSISTOR	2SC2603-EF		
Q822	8-729-620-05	TRANSISTOR	2SC2603-EF		
Q823	8-729-620-05	TRANSISTOR	2SC2603-EF		
Q824	8-729-140-96	TRANSISTOR	2SD774-34		
		< RESISTOR >			
R820	1-249-417-11	CARBON	1K	5%	1/4W F
R821	1-249-441-11	CARBON	100K	5%	1/4W
R822	1-249-429-11	CARBON	10K	5%	1/4W
R823	1-249-441-11	CARBON	100K	5%	1/4W
R824	1-249-413-11	CARBON	470	5%	1/4W F
△R825	1-212-966-00	FUSIBLE	22	5%	1/2W F
R826	1-249-441-11	CARBON	100K	5%	1/4W
R827	1-249-441-11	CARBON	100K	5%	1/4W
R828	1-249-429-11	CARBON	10K	5%	1/4W

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The components identified by mark △ or dotted line with mark △ are critical for safety.  
Replace only with part number specified.

## SENSOR

## SP TM

## SWITCH

## TRANS

## VOLSEL

Ref. No.	Part No.	Description	Remarks
*	1-653-378-51	SENSOR BOARD *****	
		< DIODE >	
D801	8-719-045-75	DIODE CL-200IR-X-TU	
D803	8-719-045-75	DIODE CL-200IR-X-TU	
D804	8-719-045-75	DIODE CL-200IR-X-TU	
		< RESISTOR >	
R801	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R803	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R804	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
		< SWITCH >	
S802	1-692-441-11	SWITCH, MICROPHONE	
*****			
*	1-667-386-11	SP TM BOARD *****	
		< CAPACITOR >	
C806	1-164-159-11	CERAMIC 0.1uF 50V (AEP,G,UK)	
C856	1-164-159-11	CERAMIC 0.1uF 50V (AEP,G,UK)	
		< CONNECTOR >	
CN803	1-691-161-11	PIN, CONNECTOR 4P	
		< COIL >	
L801	1-420-872-00	COIL, AIR-CORE (AEP,G,UK)	
L851	1-420-872-00	COIL, AIR-CORE (AEP,G,UK)	
		< RESISTOR >	
R805	1-260-076-11	CARBON 10 5% 1/2W (AEP,G,UK)	
R806	1-249-393-11	CARBON 10 5% 1/4W F (AEP,G,UK)	
R855	1-260-076-11	CARBON 10 5% 1/2W (AEP,G,UK)	
R856	1-249-393-11	CARBON 10 5% 1/4W F (AEP,G,UK)	
		< TERMINAL >	
TM801	1-537-238-31	TERMINAL BOARD (SPEAKER IMPEDANCE USE 4-16 (L+,L-,R+,R-))	
*****			
*	1-667-385-11	SWITCH BOARD *****	
		< CONNECTOR >	
CN751	1-766-928-11	CONNECTOR, BOARD TO BOARD 8P	
		< DIODE >	
D751	8-719-056-12	DIODE SML79420C-TP4 (PLAY/PAUSE)	

Ref. No.	Part No.	Description	Remarks
		< RESISTOR >	
R750	1-249-427-11	CARBON 6.8K 5% 1/4W F	
R751	1-249-429-11	CARBON 10K 5% 1/4W	
R752	1-247-858-11	CARBON 13K 5% 1/4W	
R753	1-249-433-11	CARBON 22K 5% 1/4W	
R762	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R763	1-249-427-11	CARBON 6.8K 5% 1/4W F	
R764	1-249-429-11	CARBON 10K 5% 1/4W	
R765	1-247-858-11	CARBON 13K 5% 1/4W	
		< SWITCH >	
S751	1-762-875-21	SWITCH, KEYBOARD (DBFB)	
S752	1-762-875-21	SWITCH, KEYBOARD (VOL-)	
S753	1-762-875-21	SWITCH, KEYBOARD (VOL+)	
S754	1-762-875-21	SWITCH, KEYBOARD (FUNCTION)	
S762	1-762-875-21	SWITCH, KEYBOARD (BAND)	
S763	1-762-875-21	SWITCH, KEYBOARD (TUNE-/ ◀◀ / ▶▶)	
S764	1-762-875-21	SWITCH, KEYBOARD (TUNE+/ ▶▶ / ▶▶)	
S765	1-762-875-21	SWITCH, KEYBOARD (▶▶▶ PLAY/PAUSE)	
S766	1-762-875-21	SWITCH, KEYBOARD (■)	
*****			
*	1-667-384-11	TRANS BOARD *****	
	1-533-293-11	FUSE HOLDER	
		< CONNECTOR >	
CN902	1-573-047-11	PIN, CONNECTOR (PC BOARD) 2P	
CN905	1-691-770-11	PLUG (MICRO CONNECTOR) 8P	
		< FUSE >	
△F901	1-532-388-51	FUSE TIME, LAG 2A/250V	
*****			
*	1-667-382-11	VOLSEL BOARD (MY, SP, HK, JE) *****	
	1-533-293-11	FUSE HOLDER	
		< CONNECTOR >	
CN920	1-564-507-11	PLUG, CONNECTOR 4P	
		< FUSE >	
△F902	1-532-505-51	FUSE TIME, LAG 5A/250V	
△F903	1-532-505-51	FUSE TIME, LAG 5A/250V	
		< SWITCH >	
△S901	1-554-752-11	SELECTOR, POWER VOLTAGE (VOLTAGE SELECTOR)	
*****			

The components identified by mark △ or dotted line with mark △ are critical for safety.  
Replace only with part number specified.

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
		MISCELLANEOUS				*****	
		*****				HARDWARE LIST	
		*****				*****	
13	1-782-805-11	WIRE (FLAT TYPE) (5 CORE)		#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
14	1-782-781-11	WIRE (FLAT TYPE) (27 CORE)		#2	7-685-871-09	SCREW +BVTT 3X6 (S)	
54	1-782-780-11	WIRE (FLAT TYPE) (21 CORE)		#3	7-685-862-09	SCREW +BVTT 2.6X6 (S)	
58	1-698-997-11	FAN, DC		#4	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
△ 65	1-776-060-11	CORD, POWER (EXCEPT UK)		#5	7-685-871-01	SCREW +BVTT 3X6 (S)	
△ 65	1-776-061-21	CORD, POWER (UK)		#6	7-621-772-60	SCREW +B 2X12	
△ 72	1-569-008-11	ADAPTOR, CONVERSION 2P (SP,MY)		#7	7-627-852-17	+P 1.7X4	
△ 73	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (HK)		#8	7-627-553-37	SCREW , PRECISION +P2X3	
△ 152	8-848-283-11	OPTICAL PICK-UP KSS-313A		#9	7-627-553-67	SCREW , PRECISION +P2X5	
M101	X-3367-484-2	MOTOR (SP) ASSY (SPINDLE)		#10	7-685-851-01	SCREW +BVTT 2X4 (S)	
M102	A-3252-585-A	MOTOR (SL) ASSY (SLED)		<div>The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.</div>			
M103	A-3252-580-A	MOTOR (L) ASSY (LOADING)					
△ T901	1-431-559-11	TRANSFORMER, POWER (AEP,G,UK)					
△ T901	1-431-560-11	TRANSFORMER, POWER (SP,MY,HK,JE)					
*****							